Introduction

**IST-Africa 2013** Conference & Exhibition takes place 29 - 31 May 2013 in Nairobi, Kenya, as part of **IST-Africa Week 2013**. 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 2013** is the eighth 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 Kenya through the Ministry of Education Science and Technology and Technically Co-Sponsored by IEEE, **IST-Africa 2013** 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, Open Source Software, ICT for eInclusion and eAccessibility, eInfrastructures, RFID and ICT for Networked Enterprise and eGovernment and eDemocracy. **IST-Africa 2013** 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 2013** will also provide an opportunity to identify potential partners for future proposals under Horizon 2020, the follow on programme to FP7, which will commence from 2014.

**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 2013** Conference & Exhibition 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 2013** Conference & Exhibition 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 2013** Conference & Exhibition takes place in the Safari Park Hotel, Nairobi. The hotel is located on Nairobi Thika Road, 25 mins by car from the city centre and 40 mins by car 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 44 thematically focused parallel sessions featuring different aspects of International Cooperation, eHealth, eInfrastructures, Technology Enhanced Learning and ICT Skills, Living Labs, Digital Libraries, eInclusion, Mobile Applications, ICT for Environmental Sustainability, eAgriculture and eGovernment and eDemocracy. 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 29 May features a high level dialogue on Implementation of the 8th Africa-EU Strategic Partnership on Science, Information Society and Space. The Closing Plenary on Friday 31 May focuses on Initiatives Supporting Development of Regional S&T.

The programme is subject to change and the **IST-Africa 2013** Organising Committee reserves the right to alter the contents, venue and/or speakers. This Programme is accurate as at 28 May 2013.
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 will take place in the Exhibition area to maximise exposure for technology demonstrations and posters and to 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, 28 May

IST-Africa is organising the third Annual Living Lab Thematic Working Group Meeting on Tuesday 28 May 2013.

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 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 2013 delegates are invited to pre-register for this participatory working group meeting as part of online registration.

Conference Proceedings

The IST-Africa 2013 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. The IST-Africa 2013 Conference Proceedings will also be 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 the city of Nairobi. Any special needs or requirements should be notified to the Conference Secretariat as far in advance of the event as possible.

Hotel Accommodation

Conference rates have been negotiated for delegates and accompanying persons at Safari Park Hotel (conference venue). The Safari Park is located 25 minutes drive from the city centre.

Conference hotel accommodation should be booked online on the IST-Africa Conference portal as part of conference registration.

Delegates are strongly recommended to book their accommodation early as it will be allocated on a first-come, first-served basis. Hotel accommodation can only be confirmed upon receipt of the associated payment. For further information, please visit: www.IST-Africa.org/Conference2013

How to get there

Nairobi is located eight to nine hours by air from Europe with direct flights from a number of European Capitals, and just over four hours by air from Johannesburg.

Delegates are advised to book flights and accommodation as early as possible.

Sponsors

IST-Africa 2013 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 2013 is hosted by the Government of Kenya through the Ministry of Education, Science and Technology. KENET is providing the Internet connectivity during the event. SPIDER is contributing towards a dinner for delegates.

For further information, please contact the Conference Secretariat at secretariat@IST-Africa.org
Keynote Speakers as at 28 May 2013 include:

- Prof Jacob Kaimenyi, Cabinet Secretary, Ministry of Education, Science and Technology, Kenya
- Prof Crispus Kiamba, Permanent Secretary, Ministry of Education, Science and Technology, Kenya
- Prof Shaukat Abdurulrazak, CEO, National Council for Science and Technology, Kenya
- Dr Katherine Getao, ICT Secretary, eGovernment Directorate, Kenya
- Mr Christopher Kemei, Assistant Director, Licensing-Compliance and Standards, Communications Commission of Kenya
- Mr Daniel Obam, Ministry of ICT, Kenya
- Mr Moctar Yedaly, Head of Information Society Division, African Union Commission
- Mr Morton Moller, Programme Coordination, DG CONNECT, European Commission, Belgium
- Prof Meoli Kashorda, Executive Director, KENET, Kenya
- Prof Koi Muchira Tirima, Deputy Vice Chancellor-ARS, Inoorero University / LIWA, Kenya
- Mr Jerome Morrissey, CEO, GESCI, Kenya
- Mr Stéphane Hogan, Science Counsellor at the EU Delegation to the African Union, Addis Ababa
- Mr Moses Bayingana, ICT Expert, Information Society Division, African Union Commission
- Mr Vincent Kaabunga, IEEE Kenya Section, Kenya

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 2013 International Programme Committee includes:

- Paul Cunningham (Conference Chair), IIMC International Information Management Corporation Ltd, Ireland
- Professor Jorn Braa, Department of Informatics, Oslo University, Norway
- Dr Bruce Becker, Meraka Institute, CSIR / South Africa National Grid, South Africa
- Laurens Cloete, Meraka Institute, CSIR, South Africa
- Miriam Cunningham, IIMC International Information Management Corporation Ltd, Ireland
- Kim Davis, Research Council of Norway
- Prof. Love Ekenberg, University of Stockholm, Sweden
- Razvi Doormun, University of Mauritius, Mauritius
- Prof. Marlien Herselman, Living Labs of Southern Africa Network, South Africa
- Dr. Mike Joy, University of Warwick, United Kingdom
- Dr. Bernhard R. Katzy, CeTIM, The Netherlands
- Vincent Kaabunga, IEEE Kenya Section, Kenya
- Vasilis Koulolias, Gov2U, Belgium
- Kristina Lahde, TANZICT Programme, Tanzania
- Iari Lindy, World Bank Institute, United States
- Gareth MacNaughton, CISCO, United Kingdom
- Dr Ayub Manya, Ministry of Health, Kenya
- Prof. Maurice Mars, University of KwaZulu-Natal, South Africa
- Dr. Raphael Mmasi, Tanzania Commission for Science and Technology (COSTECH), Tanzania
- Loi Mirembe Namugenyi, Uganda National Council for Science & Technology, Uganda
- Dr Joseph Sevilia, @iLabAfrica, Strathmore University, Kenya
- Matti Sinko, Aalto University, Finland
- Bernard Stevenot, SpaceBel, Belgium
- Richard Stevens, Stevens Consultants, Italy
- Daan du Toit, Senior Science and Technology Representative in Europe, Department of Science and Technology, South Africa
- Darelle Van Greunen, Nelson Mandela Metropolitan University/Computer Society of South Africa, South Africa

Organising Committee

- Miriam Cunningham, IIMC, Ireland
- Paul Cunningham, IIMC, Ireland
- Prof Crispus Kiamba, Permanent Secretary, Ministry of Education, Science and Technology, Kenya
- Dr Eric Mwangi, Ministry of Education, Science and Technology, Kenya
Wednesday, May 29, 2013

**08:00** Opening Plenary 1a: Opening Plenary
Moderator: Prof. Crispus Kiamba, Ministry of Education, Science and Technology, Kenya
Brief Remarks: Prof. Harry Kaane, Higher Education, Science and Technology Secretary, Kenya
Welcome Address: Prof. Crispus Kiamba, Permanent Secretary, Ministry of Education, Science and Technology, Kenya
European Commission Address: Morten Møller, Programme Coordination, DG CONNECT, European Commission, Belgium
African Union Commission Address: Modar Yedaly, Head of Information Society Division, African Union Commission
Official Opening Speech: Prof. Jacob Kaimenyi, Cabinet Secretary, Ministry of Education, Science and Technology, Kenya

**10:30** Coffee Break: Networking & Exhibition

**11:00** Plenary Session 2a: High-level Roundtable on Implementation of the Information Society in Africa
Moderator: Paul Cunningham, IIMC, Ireland
Panelists include:
- Prof. Crispus Kiamba, Permanent Secretary, Ministry of Education, Science and Technology, Kenya
- Dr Katherine Getao, ICT Secretary, eGovernment Directorate, Kenya
- Mr. Christopher Kemel, Assistant Director, Licensing - Compliance and Standards, Communications Commission of Kenya
- Mr Daniel Obam, Ministry of ICT, Kenya
- Mr. Moctar Yedaly, Head of Information Society Division, African Union Commission
- Prof. Meoli Kashorda, Executive Director, KENET, Kenya
- Prof. Koi Muchira Tirima, Deputy Vice Chancellor-ARS, Inoorero University / LIWA, Kenya
- Mr Jerome Morrissey, CEO, GESCI, Kenya

**12:30** Lunch: Networking & Exhibition

**14:00** Session 3a: IST-Africa – Research Capacities and Priorities I
Chair: Paul Cunningham, IIMC, Ireland
- **IST Initiatives**
  - Paul Cunningham, IIMC, Ireland
  - ICT Initiatives and Research Capacity in Kenya
  - Jacob Njagi, Ministry of Education, Science and Technology, Kenya
  - ICT Initiatives and Research Capacity in Uganda
  - Loli Namugenyi, Uganda National Council for Science and Technology
  - ICT Initiatives and Research Capacity in Tanzania
  - Faith Shimba COSTECH, Tanzania
  - ICT Initiatives and Research Capacity in Burundi
  - Augustin Nsabiyumva, Ministry of Higher Education and Scientific Research, Burundi
  - ICT Initiatives and Research Capacity in Ethiopia
  - Abdissa Yilma Tiky, Ministry of Science and Technology, Ethiopia
- **mLearning**
  - Njei Check, ANTIC, Cameroon
  - Can Micro-Volunteering Help in Africa?
  - Laurie Bürgereit, Meraka Institute, South Africa

**14:00** Session 3c: eGovernment
Chair: Katherine Getao, ICT Secretary, eGovernment Directorate, Kenya
- An Information Security Model for E-government Services Adoption in Uganda
  - Gilbert Maiga, Makerere University, Uganda
- Bottom-Up eGovernment Environmental Factors (BuEUF):
  - Facilitated Building and Implementation of eGovernment Systems in the SADC Region
  - Jameson Mbale, University of Namibia, Namibia
- Factors Affecting the Use of Data Mining in Mozambique
  - Constantino Solomane, Ministry of Science and Technology, Mozambique
- eSecurity Solution for African ICT Developments
  - Innocentia Dlamini, CSIR, South Africa

**14:00** Session 3d: ICT for Environmental Sustainability
Chair: Richard Liahona, Ministry of Education, Science and Technology, Kenya
- The Potentials of ICTs in Enhancing Environmental Sustainability in Tanzania
  - Resty Mushiri, University of KwaZulu-Natal, South Africa
- ICT for Flood Risk Management Strategies A GIS-based MCDM(A) approach
  - Avelino Mondlane, Stockholm University, Sweden
- SenseWeather: Sensor-Based Weather Monitoring System for Kenya
  - Muthoni Masinde, University of Nairobi, Kenya
- E-infrastructure for Climate Adaptation Policies: the UNDP/AAP Activities
  - Stefano Cozzini, CNR/IOM Democritos, Italy

**14:00** Session 3e: Cloud Computing
Chair: Ashwin Seegolam, National Computer Board, Mauritius
- Cloud Computing for Development – Improving the Health Information System in Ghana
  - Jern Braa, University of Oslo, Norway
- Adoption of Cloud Computing for Digital Libraries in Public Universities: Challenges and Opportunities
  - James Kimutai, Moi University, Kenya
- The Viability of Cloud Computing Adoption in SMME’s in Namibia
  - Ricardo Tjikongo, University of the Western Cape, South Africa
- Cloud Computing: an Emerging Trend for Small and Medium Enterprises
  - Julia Korongo, Moi University, Kenya
- Adoption and Use of Cloud Computing in Small and Medium Enterprises in Kenya
  - Tabitha Kihara, Moi University, Kenya

**15:30** Coffee Break: Networking & Exhibition

**16:00** Session 4a: IST-Africa – Research Capacities and Priorities II
Chair: Paul Cunningham, IIMC, Ireland
- ICT Initiatives and Research Capacity in Tunisia
  - Noureddine Hamdi, Ministry of Higher Education and Scientific Research, Tunisia
- ICT Initiatives and Research Capacity in Egypt
  - Inas Fateem, Ministry of Communications & IT, Egypt
- ICT Initiatives and Research Capacity in Senegal
  - Toumane Dounibouya, Ministère de l’Enseignement Supérieur et de la Recherche, Senegal
- ICT Initiatives and Research Capacity in Ghana
  - Constantino Sotomane, Ministry of Science and Technology, Mozambique

**Conference & Exhibition**

29 - 31 May 2013
16:00 Session 4b: Technology-Enhanced Learning
Chair: Ebony Msekwanantu, NCST, Malawi
A Framework for Investigating Universities Readiness for On-line Learning: with Particular Reference to Sudanese Universities
Atika ElMubarak, Sudan University of Science and Technology, Sudan
Presenting a Framework for Using Full Decentralized Virtualization on Desktop Computers in an Educational Laboratory Environment
Frederik Hattingh, Tshwane University of Technology, South Africa
A Look into Classification: Towards Building an Indigenous Knowledge Platform for Educational Use
Mathe Maema, Rhodes University, South Africa
E-Learning Eco-system for Mobility and Effective Learning: A Case of JKUAT IT Students
John Kihoro, Jomo Kenyatta University of Agriculture & Technology, Kenya
Correlation Between Rapid Learnability and User Preference in IVR Systems for Developing Regions
Tembalethu Ndwe, Rhodes University, South Africa

16:00 Session 4c: eGovernment
Chair: Zaria Salfoigne, National Institute for ICT, Mozambique
Towards an Electoral Process Reengineering Methodology
John Paul Kasse, MUBS, Uganda
Joseph Ogutu, University of Nairobi, Kenya
Botswana Speaks
Vasilis Koulolias, eGovLab
The Relevance of Social Media as it Applies in South Africa to Crime Prediction
Coral Featherstone, Meraka Institute, South Africa

16:00 Session 4d: Environmental Sustainability - Applications & Case Studies
Chair: Gatama Gichini, Ministry of Education and Science Technology, Kenya
EntVenture - From Binary Trees to Kenyan Forests: an Android Game Designed by Students
Balozi Kirongo, University of Eldore, Kenya
Towards Interoperable and Sustainable Smart Home
Andreas Pitsillides, University of Cyprus, Cyprus
Jecoton Tocho, University of Nairobi, Kenya
The Effects of Electronic Waste on Sustainable Environment in Kenya: A Case Study of Moi University
Daniel Samoei, Moi University, Kenya
Innovative ICT Public Awareness Campaign Strategy to Communicate Environmental Sustainability in Africa
Wilson Okaka, Kyambogo University, Uganda

16:00 Workshop 4e: African IPv6 Progress Monitoring, Cloud Computing & IXP Deployment
Chair: Latif Ladid, IPv6 Forum - SnT University of Luxembourg, Luxembourg
IPv6 based Cloud Computing
Latif Ladid, IPv6 Forum - SnT University of Luxembourg, Luxembourg
Affordable Access to the Future Internet, IPv6 the Compulsory Transition for Africa
Jacques Babot, European Commission, Belgium
Deployment of IPv6 in Africa
Adiel Akplogan, AfriNIC, Mauritius
Kenya’s IPv6 Case Study
Alex Gakuru, IPv6 Forum Kenya, Kenya
The African IXP Program
Michuki Mwangi, ISOC Kenya, Kenya

17:30 End of Parallel Sessions
10:30 Coffee Break: Networking & Exhibition

11:00 Workshop 6a: Supporting Skills Development in Africa
Chair: Helena Tapper, GESCI, Kenya

African Leadership in ICT (ALICT) Framework
Helena Tapper, GESCI, Kenya

African Leadership in ICT: Implementation Experience
Senthil Kumar, GESCI, Kenya

African Knowledge Exchange
Mathias Antonsson, GESCI, Kenya

11:00 Session 6b: Technology-Enhanced Learning in HEIs
Chair: Koi Muchira Tirimu, Inooro University, Kenya

Determinants of Technology Innovation Implementation Effectiveness in Higher Education Institutions
John Kandiri, Kenyatta University, Kenya

The lasting Effects of the Information Literacy Training Among Undergraduate Students: a Case Study of MUHAS
Edda Lwoga, Muhimbili University of Health & Allied Sciences, Tanzania

A Study of the Sudanese Students’ Use of Collaborative Tools within Moodle Learning Management System
Izzeldin Osman, Sudan university of Science and Technology, Sudan

Evaluating the Challenges of Technology Enhanced Learning in Universities in Tanzania
Neema Mduuma, Tumaini University, Tanzania

Perspectives on Underutilisation of ICT in Education in Tanzania, Uganda and Kenya
Josephat O. Oroma, Tumaini University - At iringa, Tanzania

11:00 Session 6c: eHealth - Health Information Management Systems
Chair: Ayub Manya, Ministry of Public Health and Sanitation, Kenya

Open Data Kit, A Solution Implementing a Mobile Health Information System To Enhance Data Management In Public Health
Paul Macharia, National AIDS/STIs Control Programme, Kenya

Strengthening the Health Information System in Mozambique through Malaria Incidence Prediction
Orlando Zacarias, Stockholm University, Sweden

Adoption of Health Information Systems by Health Workers in Developing Countries – Contextualizing UTAUT
Josephine Karuri, University of Nairobi, Kenya

Adapting Mobile Medical Information Search to Low-Resourced Areas
Allan Hanbury, Vienna University of Technology, Austria

11:00 Workshop 6d: AfricaConnect Extension
Chair: Lishan Adam, ICT in Development, Ethiopia

Examples of Collaboration between the African and European NRENs – The Case of RENATER and SnRER
Sabine Jaume-Rajadona, RENATER, France

AfricaConnect Extension - Preliminary Survey Results & Scenarios
Lishan Adam, ICT in Development, Ethiopia

11:00 Session 6e: ICT for Sustainable Agriculture in Africa
Chair: Vincent Kaabunga, IEEE Kenya Section, Kenya

The Challenges of Implementing EDUROAM in Kenya
University Campus Wireless LANs
Maureen Njue, Kenya Education Network, Kenya

Wireless Sensor Networks Testbed: ASNTbed
Angelina Gonta Diulda, CSIR, South Africa

Building a Sustainable Research & Hcd Eco-system: Case Study of Two Wireless Communication Eco Systems
Fisseha Mekuria, CSIR Meraka ICT Institute, South Africa

Content Hosting and Distribution Framework for Wireless Mesh Networks
Thomas Gone, Cape Peninsula University of Technology, Kenya

11:00 Workshop 6f: ICT for Sustainable Agriculture in Africa
Chair: Walter Mayer, Progis Software GmbH, Austria

The Importance of IT in Agriculture and Necessity of Agro-ICT Infrastructures
Lucy Muchoki, Pan African Agribusiness and Agroindustry Consortium, Kenya

Worldclass Agribusiness Practice: What is the Role of Executive Management Education?
David Mugun, Strathmore University, Kenya

Automatic Nationwide Real time Weatherstation Networks to Forecast Diseases, Pest Developments, Irrigation Management to run Risk Management Systems and ReduceDamages for Smallholder Agriculture in Africa
Gottfried Pessl, Pessl Instruments GmbH

12:30 Lunch: Networking & Exhibition

14:00 Session 7a: Senior University Leadership Roundtable on ICT Education, Research and Innovation
Moderators: Prof. Harry Kaane, Ministry of Education, Science and Technology & Paul Cunningham, IIMC, Ireland

Panelists include:
Prof. Ogembo Kachieng’a, DVC for Research, Technical University of Kenya
Prof. Izael Da’Silva, DVC, Academic Affairs, Strathmore University
Prof. Ddembé Williams, Dean, Faculty of ICT, KCA University
Prof. William Okello-Odongo, Director, School of Computing and Informatics, University of Nairobi
Dr. Waweru Wamangi, Director, Institute for Computer Science and IT, Jomo Kenyatta University of Agriculture and Technology
Dr. Edwin Ataro, Head of Electrical and Communication Engineering Department, Moi University
Dr. Kamau Gachigi, Director, University of Nairobi Science Park
Dr. Salome Gichura, Director Higher Education, Ministry of Education, Science and Technology, Kenya

14:00 Session 7b: Living Labs
Chair: Marlien Herselman, Meraka Institute, CSIR, South Africa

Embedding Business Model for Sustainable Collaborative Innovation in African Living Labs
Vincent Grézes, University of Applied Sciences Western Switzerland

Using Technology in Livings Labs to Transform Health, Wellness and Disease Management In South Africa
Alida Veldsman, Nelson Mandela Metropolitan University, South Africa

Virtual Buying Cooperative: a Procurement Model for Improving the Sustainability of Very Small Retailers in Emerging Economies
Mpho Raborife, SAP Research Pretoria, South Africa

Energy Management Using Living Lab In the Developing Countries
Jean Marie Vianney Bikorimana, National University of Rwanda, Rwanda

14:00 Session 7c: eHealth - Case Studies
Chair: Noureddine Hamdi, Ministère de l’Enseignement Superieur et de la Recherche Scientifique, Tunisia

AFRICA BUILD Portal: Developing a Social Network of African Health Researchers and Educators
Victor Maio, Universidad Politecnica de Madrid, Spain

MEDISHARE: a project based on ICT Tools for Improving the Sustainable Development of Capacity in Medical Research
Judith Tonimiro, Initiative to Strengthen Health Research Capacity in Africa, Cameroon

Programme
29 - 31 May 2013
14:00 Session 7d: iMentor Panel Session 7d:
Chair: Vasiliis Koulolias, eGovLab, Sweden
Panelists include:
Bjørn Pehrson, KTH, Sweden
Meoli Kashorda, KENET, Kenya
Aida Opoku-Mensah, United Nations Economic Commission for Africa

16:00 Session 8c: eHealth
Chair: Ayub Many, Ministry of Public Health and Sanitation, Kenya
Free and Open Source Software for Development of Sustainable M-Health Systems in Kenya
Stephen Ondimu, JKUAT, Kenya
Adaptive GUIs Tailored to Different User Groups for Public Health Service Delivery via Fuzzy Logic Membership Functions
Melanie Platt, University of Koblenz-Landau, Germany
Description of Availability of Medical Care with Fuzzy Logic for Logistic Optimization of Medical Resources
Louis Groesser, University of Koblenz-Landau, Germany
Digital Analysis of Malaria Infected Blood Smears via Mobile Devices
Dirk Elias, Fraunhofer Portugal Research Center for Assistive Information and Communication Solutions, Portugal
An Enhanced Entity-Attribute-Value Data Model for Representing High Dimensional and Sparse Healthcare Data
Augustus Kamau, JKUAT, Kenya

16:00 Session 8d: Exploiting the Potential of e-Infrastructures to Boost RTDI in Africa
Chair: Karin Valin, Sigma Orionis, France
e4Africa: Overview
Karine Valin, Sigma Orionis, France
The e4Africa Science Gateway, its Applications and How people/organisations can Contribute to it
Roberto Barbera, University of Catania, Italy
The e4Africa Demonstrator Projects
Bjørn Pehrson, KTH, Sweden
The Knowledge Base of Open Access Document Repositories (OADRs) and How African Libraries can Contribute to it
Margaret Ngwira, UbuntuNet Alliance, Malawi
Prospects for Extending Distributed Computing Infrastructure in Africa
Bruce Becker, Meraka Institute, CSIR, South Africa
Discussion on Futures Thinking Research Priorities in the ICT Infrastructure Focus Area
Barend Taute, CSIR, South Africa

16:00 Session 8e: Mobile Applications
Chair: Inas Fatem, Ministry of Communications & IT, Egypt
The Role of Mobile Applications in Social and Economic Development in East Africa
Saisio Kiuru, Kenya Methodist University, Kenya
Towards a Demand-side Smart Domestic Electrical Energy Management System
Nomusa Dlodlo, CSIR, South Africa
The e4Africa Science Gateway, its Applications and How people/organisations can Contribute to it
Karine Valin, Sigma Orionis, France
The e4Africa Demonstrator Projects
Bjørn Pehrson, KTH, Sweden
Links between e4Africa, AfricaConnect & CHAIN-REDS in the Region
The Knowledge Base of Open Access Document Repositories (OADRs) and How African Libraries can Contribute to it
Margaret Ngwira, UbuntuNet Alliance, Malawi
Prospects for Extending Distributed Computing Infrastructure in Africa
Bruce Becker, Meraka Institute, CSIR, South Africa
Discussion on Futures Thinking Research Priorities in the ICT Infrastructure Focus Area
Barend Taute, CSIR, South Africa

16:00 Session 8f: eAgriculture II
Chair: Eric Mwangi, Ministry of Education, Science & Technology, Kenya
The Role of ICT in Exchange of Agricultural Information and Knowledge in Kenya: the Case of Kenya Agricultural Research Institute (KARI)
Boniface Akuku, Kenya Agricultural Research Institute, Kenya
ICT Adoption Model for Rural Agricultural Communities in Kenya
Dan Onwa, University of Nairobi, Kenya
A System Dynamics Analysis of Seed Banking Effectiveness for Knowledge in Kenya: the Case of Kenya Agricultural Research Institute (KARI)
Paul Johannes Retief, Tshwane University of Technology, South Africa
Logistic Optimization of Medical Resources
Melanie Platt, University of Koblenz-Landau, Germany
Health Service Delivery via Fuzzy Logic Membership Functions
Karin Valin, Sigma Orionis, France
The e4Africa Science Gateway, its Applications and How people/organisations can Contribute to it
Roberto Barbera, University of Catania, Italy
The Knowledge Base of Open Access Document Repositories (OADRs) and How African Libraries can Contribute to it
Margaret Ngwira, UbuntuNet Alliance, Malawi
Prospects for Extending Distributed Computing Infrastructure in Africa
Bruce Becker, Meraka Institute, CSIR, South Africa
Discussion on Futures Thinking Research Priorities in the ICT Infrastructure Focus Area
Barend Taute, CSIR, South Africa

16:00 Panel 8a: Roundtable on Supporting Entrepreneurship in East Africa
Chair: Paul Cunningham, IIMC Ltd, Ireland
Panelists include:
Mary Kigaru, Kenya Methodist University, Kenya
Rachel Gichinga, iHub, Kenya
Martin Tubula, Inoororo University, Kenya
Sam Gichuru, Nailab, Kenya
Simon Stumpf, Ashoka East Africa, Kenya
Emmanuel Kweyu, @iLabAfrica, Strathmore University, Kenya

16:00 Session 8b: Living Labs to Support Skills Development
Chair: Darelle Van Greunen, NMMU, South Africa
Utilising Living Lab Principles to Model and Create a Collaborative Education Environment – The CAT Schools Programme
Ulza Wassermann, Tshwane University of Technology, South Africa
Developing Educational Assessment Tools for ICT Education – a South African Living Lab Approach
Dominic Ferguson, Consult IT (Pty) Ltd, Botswana
E-Skills Training on Communal, Fixed Infrastructure as an Activator of Personal Use of Mobile Internet
Simon Gichuru, Nailab, Kenya
Improving Student Achievement in Science and Maths -- A Living Lab Approach
Lebohang Kompi, Lesotho National Commission for UNESCO
Friday, May 31, 2013

09:00 Workshop 9a: Mutually Beneficial Africa-EU ICT Research
Chair: Karin Valin, Sigma Orionis, France
- Strengthening ICT Research and Policy links under the 8th Africa-EU Strategic Partnership
  Karine Valin, Sigma Orionis, France
- ICT Research and Innovation for Socio-economic Impact - Focus Areas and Futures Thinking
  Barend Taute, CSIR, South Africa
- Lessons from Innovation Success Stories
  Eunice Kaniuki, ICT Board, Kenya
- Innovation Policy Considerations in Africa
  Inas Fateem, Ministry of Communications and IT, Egypt
- Practical Research Collaboration - Demonstrator Projects
  Bjorn Pehrson, KTH, Sweden

09:00 Session 9b: Transformation of Research Results into Local Innovation
Chair: Marlen Herselman, Meraka Institute, CSIR, South Africa
- Authentic Assessment of Programming Skills in Kenyan Universities
  Joseph Sevilla, Strathmore University, Kenya
- Defining the African Tech-Innovation System & Innovation Index
  Chrsisostom Mwairimu, iHub Research, Kenya
- Assessment of Business Process Outsourcing (BPO) in Nairobi County
  Peter Wanderr, Kenyatta University, Kenya
- A Three Level Research Gateway for African Renewable Energy Collaboration
  Kim Jansson, VTT, Finland
- Utilization of Knowledge Management Tools in Software Development
  Samuel Kamunya, JKUAT, Kenya

09:00 Session 9c: Leveraging Open Source Software
Chair: Moses Rugutt, Ministry of Education, Science and Technology, Kenya
- Managing Open Source, Open Access Digital Libraries: Case of Pwani University Library, Kenya
  Wanyenda Chillo-Muwo, Pwani University, Kenya
- Motivation for the Adoption of Open Source Software in Academic Libraries
  Michael Maara, Pwani University, Kenya
- Open Source Software Adoption in Mauritius
  Aneerav Sukhoo, Central Informatics Bureau, Mauritius
- Surveying National Systems of Innovation (NSI) Using Free Open Source Software (FOSS): The Case of Ghana
  Ritin Koria, UNIDO, Austria
  George S. Orefu, TIRDO, Tanzania

09:00 Session 9d: ICT Regulatory Frameworks
Chair: Peacockmar Diamini, Department of Science & Technology, South Africa
  Joseph Nyaga, InterDisciplinary Centre for Law and ICT (ICRI), Belgium
- Spectrum Award Procedure in the Era of Convergence: A Key Towards Promoting Emerging Mobile Services
  Mahen Soobron, Ministry of ICT, Mauritius
- Broadband ICT Policies in Southern Africa: Initiatives and Dynamic Spectrum Regulation
  Thomas Olwal, Meraka Institute, South Africa

10:30 Coffee Break: Networking & Exhibition

11:00 Session 10a: Strengthening Democracy in East Africa through ICTs - Challenges and Opportunities
Chair: David Isaksson, Swedish Program for ICT in Developing Regions
- CIPESA: ICTs for Participatory Civic Engagement
  Ashnah Kalemera, CIPESA, Uganda
- KHRC: How can We Fight Impunity?
  Grace Were, Kenya Human Rights Commission, Kenya
- CHARGG: New Technology for Reporting Human Rights Abuse
  Wilfred Waroba, Commission for Human Rights & Good Governance, Tanzania
- ToroDev: ICT4D tools as a Leapfrogging Process for Gender Equality
  Johnstone Baguma, Toro Development Network (ToroDev), Uganda
- Wougnet: Empowering Women in Democratic Processes through ICT
  Simon Peter Ogwang, Transparency International Uganda, Uganda

11:00 Session 10b: eInclusion
Chair: Enoch Mpenza, Ministry of Communications, Science and Technology, Tanzania
- Auto-Configuration Through Cloud: Initial Case Studies for Universal and Personalised Access for All
  Evangelos Bekiaris, Centre for Research and Technology Hellas, Greece
- Making ICT Accessible for the Deaf
  Darelle Van Greunen, Nelson Mandela Metropolitan University, South Africa
- Evidence of Dyslexia in Special School in South Africa and A Proposal of Assistive Technology
  Pauline Dinu, University of Technology, South Africa
- ICTs and Survival Tactics for the Day-Labour Workers: Implications for Design
  Christopher Chepken, University of Nairobi, Kenya

11:00 Session 10c: Digital Libraries
Chair: Toumene Dombouya, Ministère de l’Enseignement Supérieur et de la Recherche, Senegal
- i4Life: Cataloguing the World’s Biodiversity
  Alastair Culham, University of Reading, United Kingdom
- Towards Digital Libraries in Kenyan Universities: Concretising the Prospects
  Joseph Kabulya, Catholic University of Eastern Africa, Kenya
- The Development of a Community-generated Digital Library: the Case of the Ulwazi Programme
  Niall McNulty, McNulty Consulting, South Africa
Registration Information

It is necessary for all IST-Africa 2013 delegates to register online. Each delegate should be registered separately.

Conference Fees

Authors Fees (Due by 08 March)

- Authors - African States €100
- Authors - EU New Member States, EU Candidate Countries and 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 - Full Fee from 17 March

- Delegate Full Price - African States €250
- Delegate Full Price - EU New Member States, EU Candidate Countries and 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
- Cyber Café facilities

Terms & Conditions

1. All authors who are presenting a paper at IST-Africa 2013 must complete their payment registration by 08 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 2013 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.
Major Places of Interest

Nairobi is the capital of Kenya with over 3 million people. The conference is located outside the city centre. It is necessary to take care when visiting Nairobi city centre as in any large city.

While in Nairobi, delegates should visit the National Museum, National Park, Bomas of Kenya and the City Market.

Climate

Nairobi has a moderate climate average temperatures of 22 degrees Celsius. It is cooler in the evening. Rains are possible during May and delegates should bring rain wear.

Visa Information

Conference delegates should contact the Kenyan Embassy in your country of residence six to eight weeks prior to travelling to determine if it is necessary for you to apply for a visa in advance. For some countries it is possible to secure a visa at the airport in Nairobi upon arrival but there may be long queues. A single entry visa for most countries is $50.

The countries whose nationals require visa for Kenya are: Albania; Algeria; Andorra; Angola; Argentina; Australia; Austria; Bahrain; Bangladesh; Belarus; Belgium; Benin; Bhutan; Bolivia; Bosnia-Herzegovina; Brazil; Bulgaria; Burkina Faso; Cambodia; Canada; Cape Verde; Central African Rep.; Chad; Chile (Nationalist); China (China Peoples Republic); Colombia; Comoros; Congo Brazzaville; Costa Rica; Cote d’Ivoire/ Ivory Coast; Croatia; Cuba; Czech Republic; Denmark; Djibouti; Dominican Rep; DRC; East Timor; Egypt; El Salvador; Ecuador; Equatorial Guinea; Estonia; Finland; France; French Guyana; Gabon; Georgia; Germany; Greece; Greenland; Guatemala; Guinea; Guinea Bissau; Haiti; Holders of Hong Kong Special Administrative Region (HKSAR); Honduras; Hungary; Iceland; India; Indonesia; Iran; Ireland; Israel; Italy; Japan; Jordan; Kampuchea Kazakhstan; Kirghistan; Korea (South); Kuwait; Laos; Latvia; Liberia; Liechtenstein; Lithuania; Luxembourg; Macedonia Madagascar; Malagasy; Malta; Mauritania; Mexico; Moldavia; Monaco; Mongolia; Morocco; Mozambique; Myanmar (formally Burma); Nepal; Netherlands; Nicaragua; Niger; Nigeria; Norway; Oman; Pakistan; Palau Pacific Isles; Panama; Paraguay; Peru; Philippines; Poland; Portugal; Qatar; Reunion; Romania; Russia; Salvador; Sao Tome and Principe; Saudi Arabia; Serbia and Montenegro; Slovakia; Slovenia; Spain; Sri Lanka; St.Christopher Cape; Sudan; Surinam; Sweden; Switzerland; Taiwan; Thailand; Togo; Tunisia; Turkey; Turkmenistan; U.S.A.; Ukraine; United Arab Emirates; United Kingdom; Uruguay; Uzbekistan; Vatican City; Venezuela; Vietnam; Yemen; Yugoslavia and also Former States of Yugoslavia.

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

The IST-Africa 2013 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 Africa for the first time are recommended to have up to date Tetanus, Hepatitis A and Typhoid vaccines.

It is necessary to have proof of Yellow Fever vaccine (Yellow Book). It is a good idea to check with your personal physician or travel health clinic four to six weeks prior to travelling, outlining where in Kenya you intend to visit.

IST-Africa Initiative

Regional Impact of Information Society Technologies in Africa ("IST-Africa") is a multi-stakeholder initiative focused on raising wider awareness of African research capacity, strengthening the research dimension of Information Society policy dialogues between the European Commission and African countries and key regional organisations, analysing African research priorities, Supporting the 8th Africa-EU Partnership, promoting participation of African organizations in the ICT Theme of FP7 and identifying co-operation opportunities in fields of mutual interest. The IST-Africa Initiative is supported by the European Commission under FP7-ICT.

IST-Africa is a collaborative initiative between IIMC International Information Management Corporation Limited (Ireland, Coordinator), 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), Ministere de l’Enseignement Supérieur 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), Ministry of Environment, Science and Technology (Ghana), Ministere de l’Enseignement Supérieur et de la Recherche Scientifique (Tunisia) and Ministry of Communications and Information Technology (Egypt).