Introduction

**IST-Africa 2011** Conference & Exhibition takes place 11 - 13 May 2011 in Gaborone, Botswana. Part of the **IST-Africa Initiative**, which is supported by the European Commission under the ICT Theme of Framework Programme 7 (FP7), **IST-Africa 2011** is the sixth in an Annual Conference Series bringing together delegates from leading commercial, government & research organisations, to bridge the Digital Divide by sharing knowledge, experience, lessons learnt & good practice.

European research activities are structured around consecutive multi-annual programmes, or so-called Framework Programmes. FP7 sets out the priorities - including the ICT Priority - for the period 2007 - 2013. ICT is fully open to international co-operation with the aim to join forces for addressing major challenges where significant added value is expected to be gained from a world-wide R&D cooperation. In this context, the European Commission co-funded the **IST-Africa Initiative** in order to promote the participation of African organisations to the ICT programme.

Hosted by the Government of Botswana through the Department of Research Science and Technology and Technically Co-Sponsored by IEEE, **IST-Africa 2011** 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, Technology Transfer, Open Source Software, ICT for eInclusion and eAccessibility, eInfrastructures, RFID and ICT for Networked Enterprise and eGovernment and eDemocracy. **IST-Africa 2011** 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 2011** will also provide an opportunity to learn more about opportunities to participate in ICT Calls under Framework Programme 7 (FP7) and identify potential partners for future proposals.

**IST-Africa** directly supports the goals of the Africa-EU Partnership on Science, Information Society and Space, 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 ICT for Networked Enterprise and eGovernment and eDemocracy.

**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 46 thematically focused parallel sessions featuring different aspects of International Cooperation, eHealth, eInfrastructures, Technology Enhanced Learning and ICT Skills, Digital Libraries, eAccessibility and eInclusion, RFID and Technology Transfer, eInclusion/eAccessibility 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 11 May features a high level dialogue on Implementation of the Africa-EU Partnership on Science, Information Society and Space. The Closing Plenary on Friday 13 May focuses on Initiatives Supporting Development of Regional S&T.

The conference programme is complemented by a demonstration and technology exploitation focused Exhibition and a Networking Reception which will take place on Wednesday 11 May 2011.

The programme is subject to change and the **IST-Africa 2011** Organising Committee reserves the right to alter the contents, venue and/or speakers.

**Who will you meet?**

**IST-Africa 2011** 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 2011** Conference & Exhibition also provides the unique opportunity to identify partners and opportunities to co-operate in international research projects co-funded by the European Commission under the FP7 ICT Programme. Much of the European research results presented in this year's conference were co-funded under the FP6 IST Programme and FP7 ICT Programme.

**The Venue**

**IST-Africa 2011** Conference & Exhibition takes place in the Gaborone International Convention Centre in the Grand Palm Resort. Gaborone is the capital of Botswana and is located one hour by air from Johannesburg.
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, 10 May

IST-Africa in cooperation with the European Network of Living Labs is organising a full day workshop as a pre-conference day on Tuesday 10 May 2011.

This workshop will facilitate knowledge sharing in relation to what is involved in setting up Living Labs in Africa as well as experiences and lessons learnt from running Living Labs in other African States and Europe.

IST-Africa 2011 delegates are invited to pre-register for this meeting as part of online registration.

Networking Reception

The IST-Africa Consortium are pleased to announce that a Networking Reception will be held in the IST-Africa 2011 Exhibition area in the Gaborone International Convention Centre on Wednesday 11 May, from 18:00 to 20:00. This will allow all conference delegates and accompanying partners to network with other conference delegates, interact with Exhibitors and view technology demonstrations.

Conference Dinner

The IST-Africa Consortium are pleased to announce that a Conference Dinner will be held on Thursday 12 May. It is necessary for delegates to pre-register for the Networking Reception and Conference Dinner.

Cyber Café

IST-Africa 2011 delegates may avail of the Internet and printing facilities provided by the IST-Africa Cyber Café. Make last minute changes to your conference presentation, follow up immediately on business, research and cooperation opportunities identified through networking at the conference, and keep in touch with the office, family and friends.

Conference Proceedings

The IST-Africa 2011 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.

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.

While security staff will be present at the conference venue, 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 Durban. 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 Walmont Hotel and Metcourt Inn, which are beside the Gaborone International Convention Centre in the Grand Palm Resort. The Grand Palm is located 30 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/Conference2011

How to get there

Gaborone is located one hour by air from Johannesburg. Delegates are advised to book flights and accommodation as early as possible.

Sponsors

IST-Africa 2011 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 the Exhibition area and in press releases, together with other benefits and promotional opportunities.

IST-Africa 2011 is hosted by the Government of Botswana through the Department of Research Science and Technology. Major sponsors confirmed to date include Ministry of Transport and Communications, MASCOM, Botswana Post and CISCO.
Keynote Speakers confirmed as at 04 May 2011 include:

- **Honourable Johnie K. Swartz**, Minister of Infrastructure, Science and Technology, Botswana
- **Honourable Frank Ramsden**, Minister of Transport and Communication, Botswana
- **Mr Nkatia C. Morupisi**, Permanent Secretary, Ministry of Infrastructure Science and Technology, Botswana
- **Mr Mabua L. Mabua**, Permanent Secretary, Ministry of Transport and Communication, Botswana
- **Dr Ahmed Hamdy**, Deputy Director, HRST, African Union Commission
- **Mr Zoran Stancic**, Deputy DG, DG Information Society and Media, European Commission
- **Prof Luis Magalhaes**, President, Knowledge Society Agency (UMIC), Ministry of Science, Technology and Higher Education, Portugal, European Chair of the Africa-EU 8th Partnership
- **Dr Hannes Toivanen**, VTT, Finland, European Co-Chair Information Society, Africa-EU 8th Partnership
- **Dr Tomaz Augusto Salomao**, Executive Secretary, SADC
- **Hon Odirile Motlhale, MP**, Chairperson of ICT Committee, Parliament of Botswana
- **Mr Ilari Lindy**, Chairperson of ICT Committee, Parliament of Botswana
- **Ms Michelle Makaroff**, Co-chair, ICT Working Group, Europe Africa Business Forum
- **Mr Thierry Devars**, DG Information Society and Media, European Commission
- **Ms Fadila Boughanemi**, International Relations, DG Research, European Commission
- **Ms Ana das Neves**, Knowledge Society Agency (UMIC), Ministry of Science, Technology and Higher Education, Portugal
- **Mr. Jose Vieira Couceiro**, Botswana Innovation Hub

**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 2011** International Programme Committee includes:

- **Paul Cunningham**, IIMC, Ireland (Conference Chair)
- **Professor George O. Anderson**, Electrical Engineering Department, University of Botswana
- **Prof. Jorn Braa**, Oslo University Norway
- **Dr Bruce Becker**, Meraka Institute, CSIR / South Africa National Grid, South Africa
- **Dr. Joseph Chuma**, University of Botswana
- **Laurens Cloete**, Meraka Institute, South Africa
- **Miriam Cunningham**, IIMC, Ireland
- **Kim Davis**, Research Council of Norway
- **Giorgio Da Bormida**, ELGI, Italy
- **Prof. Love Ekenberg**, University of Stockholm, Sweden
- **Dr. Mike Joy**, University of Warwick, UK
- **Prof. Bernhard Katzy**, CeTIM, Germany
- **Vasilis Koulolias**, Gov2U, Greece
- **Kristiina Lahde**, SAFIPA Programme, South Africa
- **Iliar Lindy**, World Bank
- **Gareth MacNaughton**, CISCO, UK
- **Dr. Sheddan Masupe**, University of Botswana
- **Prof. Maurice Mars**, University of KwaZulu-Natal, South Africa
- **Loi Namugenyi**, Uganda National Council for Science & Technology, Uganda
- **Dr Sue Pendell**, Colorado State University, United States
- **Maggy Pézeril**, Pôle Universitaire Européen, France
- **Matti Sinko**, Helsinki University of Technology/UNECA
- **Bernard Stevenot**, SpaceBel, Belgium
- **Richard Stevens**, Italy
- **Prof. Erkki Sutinen**, University of Joensuu, Finland
- **Daan du Toit**, Senior Science and Technology Representative in Europe, Department of Science & Technology, South Africa
- **Darelle van Greunen**, Nelson Mandela Metropolitan University, South Africa

**Organising Committee**

- **Miriam Cunningham**, IIMC, Ireland
- **Paul Cunningham**, IIMC, Ireland
- **Lesego M. Motoma**, University of Joensuu, Finland
- **Oabona C. Monngakgotla**, Department of Science and Technology, Botswana

**Conference Secretariat**

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e-mail: secretariat@IST-Africa.org
www.IST-Africa.org/Conference2011
Wednesday, May 11, 2011

08:00 Registration

09:00 Opening Plenary 1a

Welcome Remarks
Nkati C. Morupisi, Permanent Secretary, Ministry of Infrastructure Science and Technology

Official Opening Speech
Honourable Johnie K. Swartz, Minister of Infrastructure Science and Technology, Botswana

AUC Address
Dr Ahmed Hamdy, Deputy Director, HRST, African Union Commission

8th Africa-EU Strategic Partnership (Science, Information Society, Space)
Prof Luis Magalhães, President, UMIC, Portugal, European Chair of the Africa-EU 8th Partnership

Vote of Thanks
Mabua L. Mabua, Permanent Secretary, Ministry of Transport and Communication

10:30 Coffee Break

11:00 Plenary 2a: High-level Round Table on the Implementation of the Africa-EU Partnership on Science, Information Society and Space

Moderator: Paul Cunningham, IIMC, Ireland

Keynote Address
- Mr Zoran Stancic, Deputy DG, DG Information Society and Media, European Commission
- Mr Mabua L. Mabua, Permanent Secretary, Ministry of Transport and Communication

Panel Participants include:
- Mr Nkatia C. Morupisi, Permanent Secretary, Ministry of Infrastructure Science and Technology
- Dr Ahmed Hamdy, Deputy Director, HRST, African Union Commission
- Dr Tomaz Augusto Salomão, Executive Secretary, SADC

Vote of Thanks
Mabua L. Mabua, Permanent Secretary, Ministry of Transport and Communication

14:00 Session 3b

Chair: tbc

Introductory Remarks - Objectives
Implementation status of the Action Plan 2008-2010 Flagship Initiatives
Objectives of the Action Plan 2011-2013
Financial Resources Mobilization
- European Development Fund
- EU-Africa Infrastructures Trust Fund
- National Funding / Financial Institutions
- Innovative funding mechanism: World Bank e-transformation Trust Fund

Critical Infrastructure Security Modelling and RESCI-MONITOR: A Risk Based Critical Infrastructure Model
Thomas Schabrerreiter, Centre de Recherche Public Henri Tudor, Luxembourg

The Corporate Incident Response Framework (CIRF)
Theron Pieterse, University of Johannesburg, South Africa

14:00 Workshop 3c

Chair: Latif Ladid, IPv6 Forum & Jacques Babot, European Commission

Action Plan for the deployment of Internet Protocol version 6 (IPv6) in Africa
Panel includes:
- Latif Ladid, President, IPv6 Forum
- Jacques Babot, European Commission
- Adiel Akplogan, CEO, AFRINIC

IPv6 Deployment
Olivier Du Pont, CISCO, France

14:00 Workshop 3e

Chair: Alvaro Olivier, ENOLL/Alfamicro Ltda, Portugal

Promoting Widespread Diffusion of ICTs to Speed up Achievements of the MDGs in Africa: a Case for the MDG 2 in Uganda
Wilson Okaka, Kyambogo University, Uganda

Design of Workflow Management system for Department of Information Services
Keboonye Timpia, Botswana Government

14:00 Session 3d

Chair: Sue Pendell, Colorado State University, United States

Digital Libraries and Intelligent Content

University Research Funding and Information Management System - Improving and Enhancing Research at University of Botswana
Clement Matasane, University of Botswana

Instrumenting and Monitoring the LarKC Research Infrastructure
Ioan Toma, University of Innsbruck, Austria

Panel includes:
- Promoting Widespread Diffusion of ICTs to Speed up Achievements of the MDGs in Africa: a Case for the MDG 2 in Uganda
- Design of Workflow Management system for Department of Information Services
- Keboonye Timpia, Botswana Government

14:00 Workshop 3f

Chair: Vasilis Kouloulis, Gov2U, Greece

eGovernment - Issues and Case Studies

Challenges of eGovernment in African Countries: Creating an Enabling Environment in Nigeria
Rudrappan Dhamotharam, Covenant University, Nigeria

Developing a Model for Information Society and Development at a Provincial Level in South Africa
Rodwyn Grewan, Provincial Information Society Strategy Programme, South Africa

The Analogy of Data within eGovernment Interoperable Ecosystem (AD-eGIE): Utilising Sectorial Information
Jameson Mbale, University of Namibia, Namibia

Semantic-Driven eGovernment: A Case Study of Formal Representation of Government Domain Ontology
Jean Vincent Fonou Dombue, Vaal University of Technology, South Africa

12:30 Lunch

14:00 Session 3a

Chair: Joseph Chuma, University of Botswana

Capacity Building for HPC Infrastructure Setup in Africa: The ICTP Experience
Sebsibe Hailierriam Dadi, Addis Ababa University, Ethiopia

Seven Characteristics of a Successful Virtual Volunteering Platform
Laurie Bulgeriet, Meraka Institute, South Africa
Lessons from Monitoring and Assessing EC-funded eParticipation Projects: Citizen Engagement and Participation Impact
Melanie Bicking, University of Koblenz-Landau, Germany

16:00 Workshop 4a The Brain Gain Initiative – Next Steps towards an African e-Infrastructure for Education and Research
Chair: Luc Rukingama, UNESCO Office in Harare, Zimbabwe
Introduction
Luc Rukingama, UNESCO Office in Harare, Zimbabwe
UNESCO/HP Brain Gain Initiative – Looking Ahead: Beyond UNESCO/HP Funding
Marc Bellon, UNESCO/HP Brain Gain Initiative, France
Grid Computing as a Driving Force for E-learning and Open Education Resources in Africa
Simon Karume, Masinde Muliro University of Science and Technology, Kenya
Brain Gain and Brain Circulation in Africa: Challenges and Opportunities
Achuo Enow, International Council for Science, Regional Office for Africa, South Africa
The South African National Grid: Blueprint, Impact and Perspectives for African Research
Bruce Becker, Meraka Institute, CSIR, South Africa
CHAIN and EPIKH: Policy and Training Coordination in Grid Infrastructures
Valeria Ardizzone, Istituto Nazionale di Fisica Nucleare Sez. Catania, Italy

16:00 Session 4b 8th Africa-EU Partnership - Information Society Implementation Group II
Chair: tbc
Action Plan 2011-2013 Implementation Roadmap
- Support to ICT policy and Regulatory Reforms / Scaling-up the HIPSSA Initiative

African RECs: Report on ICT Regional Initiatives and Strategies

16:00 Session 4c Mobile Applications
Chair: Laurens Cloete, Meraka Institute, South Africa
Status of Interconnection and Traffic Exchange in Africa
Chris Morris, Internet Society, South Africa
Dynamic Spectrum Allocation in Multiuser Wireless Networks
Sheila Mugala, Makerere University, Uganda
Crest Factor Reduction of an OFDM/WiMAX Network
Sheila Mugala, Makerere University, Uganda
European Geostationary Navigation Overlay Service (EGNOS)
Dimov Stojce Ilcev, Durban University of Technology, South Africa

16:00 Session 4d Open Source Software - Applications and Case Studies
Chair: Maxwell Otim, Uganda National Council for Science and Technology
An e-Government Application using Open Source Software
Marco Guerrini, Sogei S.p.A., Italy
UNAM Event Notification System
Ashraf Ghanaia, University of Namibia, Namibia
Importance of Open Source Software for Development of ICT in Burundi
Melchicedec Nduwayo, Martin Luther King University, Burundi

16:00 Session 4e Living Labs - Case Studies
Chair: Kristina Lahde, SAFIPA Programme, South Africa
Living Lab: A potential change catalyst for development in Nongoma
Murimo Bethel Mutanga, University of Zululand, South Africa
Deploying Mobile Rural Living Lab in Nongoma
Zamandiela Ndiela, University of Zululand, South Africa
Stimulating Development Through Transnational Living Labs: the Italo-Mozambican Vision
Aaron Cigashi, Fondazione Bruno Kessler, Italy
Chair:

09:00 Workshop 5a  African REN I: Setting the Stage – the State of Research and Education Networking

Chairs: Ahmed Hamdy, African Union Commission

Situational Briefing Session to set the stage; What is happening in Africa (focus on progress during the last 12 months)? What are the major initiatives that are promoting REN activities in Africa while building global linkages (scope and status)?

Association of African Universities
Boubakar Barry, AAU
UbuntuNet Alliance
Francis Tusubia, UbuntuNet Alliance, Uganda
WACREN
Nii Quaynor, WACREN, Ghana
AfricaConnect
Catherin Slover, DANTE, UK
eInfrastructures and International Collaboration - State of Play
Kostas Glinos, European Commission, Belgium
Collaboration without Frontiers
Axel Clauberg, Cisco Systems, Germany

09:00 Workshop 5b  8th Africa-EU Partnership - Information Society Implementation Group III

Chair: tbc

- Action Plan 2011-2013 Implementation Roadmap
- Public-private Partnerships; Interaction with the EU-Africa Business Forum
- Sharing of ICT Best Practices; Stocktaking of Successful Deployments

09:00 Workshop 5c  First IFIP TC 9/TC 11 Southern African Cyber Security Awareness Workshop - SACSAW 2011 - Cyber Security Policy Development

Chair: Basie von Solms, University of Johannesburg, South Africa

Welcome Address
Dr. Jackie Phahlamohlaka

Opening Address
Basie von Solms, University of Johannesburg, South Africa

A Framework for an African Policy Towards Creating Cyber Security Awareness
Innocentia Dlamini, CSIR, South Africa

Jackie Phahlamohlaka, CSIR, South Africa

09:00 Workshop 5d  mHealth in Botswana

Chair: Faisal M. Fadlelmola, University of Botswana

mHealth in Botswana Welcome & Introduction
Ryan Littman-Quinn

Specialist Access
Ryan Littman-Quinn, Botswana-UPenn Partnership & Dr. Neo Mohutsiwa, Princess Marina Hospital

Public Health and Epidemiology
Allison Tatarsky, Clinton Health Access Initiative, Dr. Simon Chihanga, Botswana Ministry of Health, and Lesedi Bewlay, Positive Innovation for the Next Generation

Patient-centered SMS Services
Katy Digovich, Positive Innovation for the Next Generation and Lesedi Bewlay, Positive Innovation for the Next Generation

Conclusion and General Discussion
Ryan Littman-Quinn, Botswana-UPenn Partnership

09:00 Workshop 5e  Technology Enhanced Learning & ICT Skills

Chair: Love Ekengen, University of Stockholm, Sweden

An Analysis of the State and Prospects of e-Learning in Developing Countries
Matti Tedre, Tumaini University, United Republic of Tanzania

Maximising Return on Investment in ICT Training - An African Perspective
Peter Denny, University of Kwazulu Natal, South Africa

The Perception of the Role of IS in an Emerging Country: The Case of Botswana
Yirsw Ayalew Ayalew, University of Botswana

09:00 Workshop 5f  Africa4All – Leveraging ICT in African Parliaments

Chair: Vasillis Koulolias, Gov2u, Greece

Africa4All Parliamentary Initiative
Vasillis Koulolias, Gov2u, Greece

Demonstrations

10:30 Coffee Break

11:00 Workshop 6a  African REN II: Creating Synergy among the Initiatives Supporting research and Education Networking in Africa

Chair: Francis Tusubira, UbuntuNet Alliance, Uganda

Moderated Panel Discussion Focused on Presentation of Activities Being Undertaken and Opportunities for Synergy
Khaled Fourati
European Initiatives Supporting Research and Education Networking in Africa
Leonardo Flores, European Commission, Belgium
World Bank Initiatives
Peter Materu (tbc)

American Foundations
Andrea Johnson, Carnegie Corporation of New York

11:00 Session 6b  8th Africa-EU Partnership - Information Society Implementation Group IV

Chair: tbc

- Action Plan 2011-2013 Implementation Roadmap
- e-Skills, Digital Literacy Programmes + Scaling-up the ALICT Programme
- Promotion of Digital Content

11:00 Workshop 6c  SACSAW 2011- Cyber Security Educational Schemes

Chair: Matthie Grobler, CSIR, South Africa

The South African Cyber Security Awareness Month (SACSAM)
Basie von Solms, University of Johannesburg, South Africa

A Cyber Security Curriculum for South African Schools
Mariska de Lange & Rossouw von Solms, NMMU, South Africa

A Cyber Security Portal for South Africa
Johan van Niekerk & Rossouw von Solms, NMMU, South Africa

11:00 Session 6d  eHealth - Issues and Applications

Chair: Maurice Mars, University of KwaZulu-Natal, South Africa

Federated EHR: How to Improve Data Quality Maintaining Privacy
Annamaria Chiasera, GPl - IT for Welfare, Italy

VITA: A Paperless Hospital Suite
James Katende, Botswana International University of Science & Technology, Botswana

Automating Remote Monitoring and Information Therapy: An Opportunity to Practicing Telemedicine in Developing Countries
Juha Puustjärvi, Helsinki University of Technology, Finland

11:00 Session 6e  Technology Enhanced Learning and ICT Skills II

Chair: John Connell, CISCO, United Kingdom

Stop Words for “Dr Math”
Laurie Butgereit, Meraka Institute, South Africa
Assessing the Use of Blackboard for Course Delivery in an Engineering Programme
Tunde Odadiran, University of Botswana

MERLINGO - the Adaptation and Accessible Distribution of Study Materials on the basis of Rich-media for the Support of the Learning Process in Students with Special Needs
Ivo Martiník, Technical University of Ostrava, Czech Republic

Exposing Knowledge in Speech: Monitoring Conceptual Development in Spoken Conversation
Ruben Lagatá, Katholieke Universiteit Leuven, Belgium

11:00 Session 6f ICT for eclusion and eAccessibility - Case Studies
Chair: Darelle Van Greunen, Nelson Mandela Metropolitan University, South Africa

“SignOn”, A Model for Teaching Written Language to Deaf People
Franz Dotter, University of Klagenfurt, Austria

What IT Professionals Should Know About IT Work in Developing Countries
Marti Tredre, Tumaini University, United Republic of Tanzania

Botswana Case Study Role of ICT in Graduation from a Least Developed Country to a Developed Country
Arindam Bose, Cyber Media (India) Ltd, Botswana

Challenges and Solutions Towards Telecentre Sustainability: A Southern Africa Case Study
Mbuyo Sumbwanyamlwe, University of Johannesburg, South Africa

12:30 Lunch

14:00 Workshop 7a African REN III: Creating and Strengthening Global Strategic Alliances
Chairs: Kostas Glinos, European Commission, Belgium & Duncan Martin, UbuntuNet Alliance, South Africa
Presentations will Focus on Opportunities for Working with Emerging African Regional RENs

GÉANT
Cathrin Slover, DANTE, United Kingdom

CLARA
Gustavo Garcia, Cooperación Latinoamericana de Redes Avanzadas (CLARA), Chile

EUMEDGrid
Mario Reale, Consortium GARR, Italy

UbuntuNet Alliance
Tiwonge Msulira Banda, UbuntuNet Alliance for Research and Development in Africa

EC on Broadband and Science
Leonardo Flores, European Commission, Belgium

IPv6 Labs and Test Centers in Africa
Olivier DUPONT, CISCO, France

14:00 Session 7b 8th Africa-EU Partnership - Information Society Implementation Group V
Chair: tbc
Action Plan 2011-2013 Implementation Roadmap
- eApplications in the Health and Education Sectors + full implementation of the African Virtual Campus project
- ICT Research, Innovation and Entrepreneurship / Cooperation on Living Labs/ Implementation of the AYIN project

14:00 Workshop 7c SACSAW 2011 - Practical Cyber Security Awareness Initiatives
Chair: Rossouw Von Solms, Nelson Mandela Metropolitan University, South Africa

Cyber Awareness Initiatives in South Africa: A National Perspective
Marthie Grobler, CSIR, South Africa

A Framework to Implement a National Cyber Security Structure for Developing Nations
Ian Ellefsen, University of Johannesburg, South Africa

Design of a Cyber Security Awareness Campaign for Internet Cafe Users in Rural Areas
W.A. Labuschange, CSIR, South Africa

14:00 Session 7d eHealth - Issues and Applications II
Chair: Sheddan Masupe, University of Botswana

A Framework for Cell Phone Based Diagnosis and Management of Priority Tropical Diseases
Faith-Michael Uzoka, Mount Royal University, Calgary, Canada

Cost Benefit of Using the SIMpill Electronic Treatment Adherence System to Support Tuberculosis Patients
Sean Broomhead, Greenfield Management Solutions, South Africa

eHealth for Developing Countries – Sustainable Strategies
Tom Jones, TanJent, United Kingdom

14:00 Session 7e Technology Enhanced Learning and ICT Skills in East Africa
Chair: Almany Konte, Ministère de l’Enseignement Superieur et de la Recherche Scientifique, Senegal

From Learning Technology to Learning with Technology: e-Learning Resource Centre for Quality Teacher Training in Burundi
Spès N'baflasha, Ecole Normale Supérieure, Burundi

Inter-University Workshop for the promotion and popularization of ICT in Burundi
Óscar Irambona, Universite Grands Lacs, Burundi

The Integration of eLearning in Burundian Education System for Teaching ICT skills to Rural Marginalized Students
Hilaire Nkuzimana, Hope Africa University, Burundi

Bagamoyo Caravan: Pervasive Learning Game for a Tanzanian museum
Teemu H. Laine, University of Eastern Finland, Finland

14:00 Session 7f ICT for eclusion and eAccessibility - Case Studies
Chair: Kim Davis, Research Council of Norway

The Socio-economic landscape of a Rural Community – A View of Rietfontein
Darelle Van Greunen, Nelson Mandela Metropolitan University, South Africa

The Potential of ICTs to emPower Rural Women
Meera Joseph, University of Johannesburg, South Africa

Mobi-Incubation User Experience for Rural Entrepreneurs in Emerging Economies
Darelle Van Greunen, Nelson Mandela Metropolitan University, South Africa

15:30 Coffee Break

16:00 Workshop 8a African REN IV: Applications and Discussion
Chair: Björn Pehrson, KTH, Sweden & Leonardo Flores, European Commission, Belgium

Part 1: Usage of ICT Infrastructure for Intra-African and Global Research Cooperation and Applications

Being Responsive to the Research and Education agendas of the AUC and African Regional Bodies
Moses Bayingana, African Union Commission, Ethiopia

Intra-African Research and Education Collaboration
Boubakar Barry, Association of African Universities, Ghana

Part 2: Ideas from the Audience on Support Actions related to e-Infrastructures Development in Africa

Part 3: Roundtable Discussion: What have we learnt and what shall we therefore do?

16:00 Session 8b 8th Africa-EU Partnership - Information Society Implementation Group VI
Chair: tbc
Action Plan 2011-2013 Implementation Roadmap
- Research and Education Networking / AfricaConnect

List of Actions - Next Steps
16:00 Workshop 8c  SACSAW 2011 - Cyber Security Designs
Chair:  Joey Jansen van Vuuren
A Framework for Implementing a Cyber Security Awareness Programme for Internet Users
E. Kritzinger & E. Smith, UNISA, South Africa
The Cyber Security Awareness Workbook
E. Kritzinger, UNISA, South Africa
Discussion Panel

16:00 Session 8d  eHealth - Case Studies
Chair:  Richard Stevens, Italy
The Design, Implementation and Evaluation of Computerized Clinic Patient Management and Clinician Order Entry Systems in a PMTCT Clinic in Uganda
Michael Kavuma, Management Sciences for Health, Uganda
Health Information Systems Integration in Tanzania: Tapping the Contextual Advantages
Masoud Mahundi, University of Dar es Salaam, United Republic of Tanzania
Evaluating ICT Potential for Improving Health Information Quality in Africa
Kseniya Khovanova-Rubicondo, Ashburn Institute, Ukraine

16:00 Session 8e  Technology Enhanced Learning and ICT Skills IV
Chair:  Loi Mirembe Namugenyi, Uganda National Council for Science & Technology
tactusLogic: Programming Using Physical Objects
Andrew Cyrus Smith, CSIR Meraka Institute, South Africa
An Intelligent Fractions Learning System: Implementation
Andrew Cyrus Smith, CSIR Meraka Institute, South Africa
Technology enhanced distance learning: designing with
Gomang Seratwa Ntloedibe-Kuswani, University of Botswana
Case Study of how Limkokwing University Implements Technology Enhanced Learning
Tapson Mlambo, Limkokwing University of Creative Technology, Botswana

16:00 Session 8f  ICT for eInclusion and eAccessibility - Issues
Chair:  Raphael Mmasi, COSTECH, Tanzania
Achieving eInclusion: How can Digital Agenda for Europe Work For Africa?
Daniel Palmer, ECDL Foundation, Singapore
AAL for Supporting Elderly
Matjaz Gams, Jozef Stefan Institute, Slovenia
Admixture Practises in South African Languages: Impact on Speech-enabled Technology Design
Tembalethu Ndwe, University of Cape Town, South Africa

17:30 End of Parallel Sessions
Friday, May 13, 2011

09:00 Workshop 9a: elinfrastructures and the Sensor Web for Earth Observation and Simulation

Chair: Ingo Simonis, OGCEurope & Anwar Vahed, Meraka Institute, CSIR, South Africa

- OpenSensors: A Community Platform to Enable the Sensor Web and Foster Earth Observation Research
  Stefanie Andrae, Carinthia University of Applied Sciences, Austria

- Earth Observation and Environmental Modelling for the Mitigation of Health Risks such as Cholera, Cardio-Vascular and Respiratory Diseases
  Ingo Simonis, Meraka, Germany

- elinfrastructures for Disaster Risk Assessment
  Anwar Vahed, Meraka Institute, CSIR, South Africa

- Illustrating the Role of e-Infrastructures when Studying Cholera Dynamics
  Marna van der Merwe, CSIR, South Africa

- Massive Climate Data Sets in elinfrastructures
  Francois Engelbrecht, CSIR, South Africa

- Sensor Web
  Simon Jirka, 52north, Germany

09:00 Workshop 9b: IST-Africa - Linking European & African Researchers

Chair: Paul Cunningham, IIMC, Ireland

- EU - Africa Research Cooperation Opportunities
  Kostas Glinos, European Commission, Belgium

- ICT Initiatives and Research Capacity in Botswana
  Oabona Monagkgogola, Ministry of Infrastructure, Science and Technology, Botswana

- ICT Initiatives and Research Capacity in Mauritius
  Vikash Heeralaul, National Computer Board, Mauritius

- ICT Initiatives and Research Capacity in Mozambique
  Zauria Saifodine, National Institute for ICT, Mozambique

- ICT Initiatives and Research Capacity in Namibia
  Florence Kavirindi, Ministry of Education, Namibia

- ICT Initiatives and Research Capacity in Lesotho
  Lefa Thamae, Department of Science and Technology, Lesotho

- ICT Initiatives and Research Capacity in South Africa
  Itumeleng Phogojane, Department of Science & Technology, South Africa

09:00 Workshop 9c: Networked Enterprises: Potential and Opportunities for Businesses in Africa

Chair: Man-Sze Li, IC Focus, UK & Markus Eisenhauer, Fraunhofer Institute for Applied Information Technology, Germany

- The Evolution and Key Findings of Networked Enterprises in European Research
  Man-Sze Li, IC Focus, UK

- Business Model Developments and Innovations
  Peter Lindgren, Aalborg University, Denmark (tbc)

- Networked Enterprises: A Case Study in Regional Healthcare
  Andrew Faughey, VEN Process Ltd, UK

- Enterprise Systems in the Internet of Things
  Markus Eisenhauer, Fraunhofer Institute for applied Information Technology, Germany

- Discussion - Networked Enterprises: relevance and opportunity for Africa
  Apps for the Other Billions: new demands for a new cause?
  Dissemination, autonomy and ownership of knowledge and technologies for businesses

Leveraging Networked Enterprises research to support businesses in Africa
Potential areas of joint research interest between EU and Africa

09:00 Session 9d: Rural Innovation Systems

Chair: Eric Mwangi, Ministry of Higher Education, Science & Technology, Kenya

- Mobile Banking as a Means to Provide Access to Financial Services
  Jose Luis Gmez Barroso, UNED, Spain

- Vision of the Farm of Tomorrow
  Karel Charvat, Cesk centrum pro vedu a spolecnost, Czech Republic

- VLITE NODE – Solution for Precision Farming
  Karel Charvat, Cesk centrum pro vedu a spolecnost, Czech Republic

09:00 Session 9e: Transformation of Research Results into Local Innovation

Chair: Kim Davis, Research Council of Norway

- Voices: Voice-based ICT Services for Underprivileged Communities
  Stephane Boyera, W3C, France

- Building Participatory Geographic Information system to Support Community Initiated Local Livelihoods
  Mulatu Muluatu, University of Botswana

- Challenges in transferring European business and technology models to the developing Southern African regions
  Margherita Forcolin, Insel S.P.A., Italy

- Designing Pilot Micro Finance Information Dissemination Centres for the Eastern Cape: A process report
  Annatjie Erasmus, AVE Business Process Engineering, South Africa

- Crucial Considerations in One-to-One Computing in Developing Countries
  Henrik Hansson, Stockholm University, Sweden

10:30 Coffee Break

11:00 Session 10a: Cloud Computing

Chair: Fisseha Mekuria, CSIR Pretoria, South Africa

- Cloud Computing as an Emerging Technology and its Associated Ethical Issues: Lessons that can be shared between Europe and Africa
  Kutoma J. Wakunuma, De Montfort University, United Kingdom

- Improving the Capacity, Reliability & Life of Mobile Devices with Cloud Computing
  Fisseha Mekuria, CSIR, South Africa

- A Case Analysis of Factors Affecting the Adoption of Grid Technology by Universities
  Faith-Michael Uzoka, Mount Royal University, Calgary, Canada, Canada

- A Web-Portal for Accessing Services by SMMEs in South Africa: A Mashup Prototype
  Ernest Ketcha Ngassam, SAP Meraka, South Africa

11:00 Session 10b: IST-Africa - Linking European & African Researchers

Chair: Paul Cunningham, IIMC, Ireland

- ICT Initiatives and Research Capacity in Egypt
  Effat El Shooky, Ministry of Communications & IT, Egypt

- ICT Initiatives and Research Capacity in Senegal
  Almamy Konte, Ministere de l’Enseignement Supérieur, des Universités et des Centres Universitaires Régionaux et de la Recherche Scientifique, Senegal

- ICT Initiatives and Research Capacity in Cameroon
  Ernest Ketcha Ngassam, SAP Meraka, South Africa

- ICT Initiatives and Research Capacity in Kenya
  Jacob Ngai, Ministry of Higher Education, Science and Technology, Kenya

- ICT Initiatives and Research Capacity in Burundi
  Augustin Nsabiyumva, Ministry of Higher Education and Scientific Research, Burundi

- ICT Initiatives and Research Capacity in Tanzania
  Raphaell Mmasi, COSTECH, United Republic of Tanzania
09:00 Session 10c       RFID and Networked Enterprise

Chair: Laurens Cloete, Meraka Institute, South Africa

The Internet of Things – Promise for the future? An Introduction
Louis Coetzee, Meraka Institute, CSIR, South Africa

Beachcomber: Linking the "Internet of Things" to the "Internet of People"
Laurie Butgereit, Meraka Institute, South Africa

Usage of Social Networks Marketing by Small and Medium-Scale Enterprises in South Africa: A Review of some SMEs in Cape Town
Mayowa Mulero, Cape Peninsula University of Technology, South Africa

RFID in Botswana
Luke Bathopi, Botswana Telecommunications Authority, Botswana

11:00 Session 10d       ICT for Environmental Risk Management

Chair: Bernard Steevenot, SpaceBel, Belgium

The Development and Implementation of eLog Technology for the Local and International Fishing Industry
Amos Barkai, Olrac, South Africa

Social Space for Geospatial Information
Premysl Vohnout, Wirelessinfo, Czech Republic

ICT for Automated Forecasting of Electrical Power
Consumption: A Case Study in Maputo
Constantino Sotomane, Stockholm University, Sweden

12:30 Lunch

13:30 Closing Plenary 11

Strengthening African - European Cooperation in ICT and S&T
Thierry Devai, European Commission, Belgium

Strengthening African - European Cooperation in S&T
Fadila Boughanemi, European Commission, Belgium

Bridging Africa and Europe with the Information Society
Ana Cristina Neves, UMIC, Ministry of Science, Technology and Higher Education, Portugal

Initiatives in Botswana
George O. Anderson, University of Botswana, Botswana
Budzanani Tacheba, Botswana Innovation Hub

Best Paper Award
Best Demonstration Stand Award
Honourable Jonie K. Swartz, Minister of Infrastructure Science and Technology, Botswana

Formal Closing of Conference
Honourable Frank Ramsden, Minister of Transport and Communication, Botswana

The Programme presented is accurate as at 04 May 2011 and is subject to change without notice at the discretion of the International Programme Committee Chair.
Registration Information

It is necessary for all IST-Africa 2011 delegates to register online. Each delegate should be registered separately.

Conference Fees

Authors Fees (Due by 04 March)

- Authors - African States (1) €100
- Authors - Botswana (Discounted Fee) €55
- Authors - EU New Member States (2), EU Candidate Countries (3) and Developing Countries (4) €200
- Authors - All countries except African States (1), EU New Member States (2), Candidate Countries (3) and Developing Countries (4) €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 (Due by 14 March)

- Early Bird - African States (1) €200
- Early Bird - Botswana (Discounted Fee) €55
- Early Bird - EU New Member States (2), EU Candidate Countries (3) and Developing Countries (4) €300
- Early Bird - All countries except African States (1), EU New Member States (2), Candidate Countries (3) and Developing Countries (4) €400

Delegates’ Fees - Full Fee from 15 March

- Delegate Full Price - African States (1) €250
- Delegate - Botswana (Discounted Fee) €55
- Delegate Full Price - EU New Member States (2), EU Candidate Countries (3) and Developing Countries (4) €400
- Delegate Full Price - All countries except African States (1), EU New Member States (2), Candidate Countries (3) and Developing Countries (4) €500

The Conference Fee includes:

- Entrance to all plenary and parallel sessions
- Entrance to Exhibition
- Documentation with proceedings on CD-Rom
- Three luncheons and refreshments at morning and afternoon breaks
- Cocktail Networking Reception
- Cyber Café facilities

Terms & Conditions

1. All authors who are presenting a paper at IST-Africa 2011 must complete their payment registration by 04 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. Accepted Exhibitors (other than accepted presenters) must complete payment registration by end of March.

4. Delegates’ fees must be paid before admission to the Conference and Exhibition.

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
et of any bank charges and the payment instruction should refer to "IST-Africa 2011 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 10 May from 16:00 to 19:00 and will remain open during normal conference hours from 08:00 on Wednesday.
Major Places of Interest

Gaborone is the capital of Botswana. While in Gaborone, delegates and accompanying persons should visit the National Museum, National Botanical Gardens, Gaborone Game Reserve, Mokoladi Nature Reserve and Mochudi.

Botswana is renowned for its flora and fauna. Other places in Botswana include Okavango Delta, Chobe River and National Parks.

Climate

The climate in May is clear, warm and sunny with average temperatures of 14 - 25 degrees Celsius. It is cooler in the evening.

Visa Information

Conference delegates should contact the Botswana 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.

Most Commonwealth and SADC countries do not require visas. Certain EU countries also have waived visa rights but it is necessary to check if this applies to you.

If you are travelling through South Africa or another country to get to Gaborone, it is necessary to check if you require transit visas.

The IST-Africa 2011 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 a good idea to check with your personal physician or travel health clinic four to six weeks prior to travelling, outlining where in South Africa 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 ICT policy and research priorities, 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 Communications, 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), 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 Superieur et de la Recherche Scientifique (Burundi), Ministry in President's Office in charge of Information and Communication Technology (Rwanda), Agence Nationale des Technologies de l'Information et de la Communication (Cameroon), Ministère de la Recherche Scientifique (Senegal) and Ministry of Communications and Information Technology (Egypt).
Exhibition

**IST-Africa 2011** Exhibition showcases applied ICT research results and applications through technology demonstrations and posters, whether funded commercially, or at a national, regional or European level.

**Demonstration Stands**

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<td>IST-Africa Initiative</td>
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<td>GPI SpA</td>
<td>Italy</td>
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