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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,

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.

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 40 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.

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 faciliate 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 hope to organise a Conference Dinner on Thursday 12 May, subject to sponsorship.

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 MASCOM, Botswana Post and CISCO.

Technical Co-Sponsors include IEEE Botswana Section and IEEE UKRI Computer Chapter.

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. Jørn 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
 Ilari 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, Department of Research, Science and Technology, Botswana
- Oabona C. Monngakgotla, Department of Research, Science and Technology, Botswana





Conference Secretariat

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www.IST-Africa.org/Conference2011



Wednesday, May 11, 2011

09:00 Opening Plenary 1a

Plenary Speakers will be published during February

10:30 Coffee Break

Exhibition & Networking

Registration

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

Plenary Speakers will be published during February

12:30 Lunch Exhibition & Networking

14:00 Session 3a eGovernment - Issues and Case Studies

Chair: Vasilis Koulolias, Gov2U, Greece

Challenges of eGovernment in African Countries: Creating an Enabling Environment in Nigeria

Rudrappan Dhamodharam. 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 Dombeu, Vaal University of Technology, South Africa

Lessons from Monitoring and Assessing EC-funded eParticipation Projects: Citizen Engagement and Participation Impact

Melanie Bicking, University of Koblenz-Landau, Germany

14:00 Workshop 3b IST-Africa - Linking European and African Researchers I

Chair: Paul Cunningham, IIMC, Ireland

EU - Africa Research Cooperation Opportunities Paul Cunningham, IIMC, Ireland

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

ICT Initiatives and Research Capacity in Mauritius Dan Faugoo, National Computer Board, Mauritius

ICT Initiatives and Research Capacity in Mozambique Augusto Nunes, ICT Policy Implementation Technical Unit (UTICT), Mozambique

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ICT Initiatives and Research Capacity in Namibia Florence Kavirindi, Miinistry 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

Mmboneni Muofhe, Department of Science & Technology, South Africa

14:00 Workshop 3c Living Labs - Experiences from ENOLL

Chair: Alvaro Olivier, ENOLL/Alfamicro Lda, Portugal

Presenters will be confirmed during February

14:00 Workshop 3d

African IPv6 Deployment Roadmap

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

14:00 Session 3e eInfrastructures

Chair: Joseph Chuma, University of Botswana

Capacity Building for HPC Infrastructure Setup in Africa: The ICTP Experience

Olatunde Abiona, Indiana University Northwest, United States

Seven Characteristics of a Successful Virtual Volunteering Platform

Laurie Butgereit, Meraka Institute, South Africa

get2net: Affordable Broadband Internet Access to Bridge the Digital Divide in West Africa

Fulvio Sansone, Intersat Africa Ltd, Kenya

Critical Infrastructure Security Modelling and RESCI-MONITOR: A Risk Based Critical Infrastructure Model

Thomas Schaberreiter, Centre de Recherche Public Henri Tudor, Luxembourg

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

15:30 Coffee Break

Exhibition & Networking

16:00 Session 4a eGovernment Developments in East Africa

Chair: tbc

A Review of Challenges and Opportunities on e-Government Initiatives in Tanzania

George S. Oreku, TIRDO, United Republic of Tanzania

Listening to Citizens: Identifying Citizen-demanded e-Government Services in Tanzania

Jim Yonazi, The Institute of Finance Management, United Republic of Tanzania

Assessment of Public Services eGovernment Initiatives: A Case Study of Tanzania

Grace Mbwete, Open University of Tanzania, United Republic of

Grace Mowete, Open University of Tanzania, United Republic of Tanzania

eGovernment for Development: Implementation Challenges of Uganda's National Backbone Infrastructure Project and Key Lessons Justine Ssempebwa, Ministry of Finance, Planning and Economic Development, Uganda

Proposed ICT-Enabled Services Model for Local Authorities in Kenya Dennis Ochieng', Moi University, Kenya

16:00 Session 4b IST-Africa - Linking European and African Researchers II

Chair: Paul Cunningham, IIMC, Ireland

ICT Initiatives and Research Capacity in Egypt Inas Fateem, Ministry of Communications & IT, Egypt

ICT Initiatives and Research Capacity in Senegal

Almamy Konte, Ministere de la Recherche Scientifique, Senegal

ICT Initiatives and Research Capacity in Cameroon

Peter Mokube, National Agency for Information and Communication Technologies, Cameroon

ICT Initiatives and Research Capacity in Kenya

Jacob Njagi, Ministry of Higher Education, Science and Technology, Kenva

ICT Initiatives and Research Capacity in Burundi

Augustin Nsabiyumva, Ministry of Higher Education and Scientific Research, Burundi

ICT Initiatives and Research Capacity in Tanzania Raphael Mmasi, COSTECH, United Republic of Tanzania

ICT Initiatives and Research Capacity in Uganda

Maxwell Otim, Uganda National Council for Science & Technology

EuroAfrica-ICT - Preliminary Results from ICT Research Priorities Study

Karine Valin, Sigma Orionis, France

16:00 Session 4c

Living Labs - Case Studies

Chair: Jesse Marsh, Atelier Studio Associato, Italy

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 Zamandlela Ndlela, University of Zululand, South Africa

Stimulating Development Through Transnational Living Labs: the Italo-Mozambican Vision

Aaron Ciaghi, Fondazione Bruno Kessler, Italy

Formalising Living Labs to Achieve Organisational Objectives in Emerging Economies

Danie Smit, SAP Research, South Africa

Towards a Mobile e-Procurement System for Small Scale Retailers in Rural South Africa

Winnie Kandie, SAP Research CEC Pretoria, South Africa

16:00 Session 4d

Mobile Applications

Chair: Laurens Cloete Meraka Institute, South Africa

Dynamic Spetrum Allocation in Multiuser Wireless NetworksPaul Bogere, Makerere University/ Community Wiress Resource Centre,
Uganda

Crest Factor Reduction of an OFDM/WiMAX Network

Sheila Mugala, Makerere University, Uganda

Additional presenters will be published during February

16:00 Workshop 4e

UNESCO/HP Brain Gain Initiative

Chair: Liliana Simionescu, UNESCO, France

Presenters will be confirmed duing February

17:30 End of Parallel Sessions

18:00 Reception

Reception



Thursday, May 12, 2011



09:00 Workshop 5a

Africa4All – Leveraging ICT in African Parliaments

Chair: Vasilis Koulolias, Gov2u, Greece

Africa4All Parliamentary Initiative

Vasilis Koulolias, Gov2u, Greece

Current ICT Initiatives and Future Plans for Civil Engagement at the Parliament of Namibia: Successes, Challenges and Lessons Learnt Marianne Gei-khoibes, National Assembly of the Parliament of Namibia

Initial Experiences in Parliament of Lesotho

Mosito Lelimo, National Assembly of Lesotho

Enhancing Democracy through use of ICT - Experience of Uganda Aloysius Makata, Parliament of Uganda

Leveraging ICT in the Parliament of Tanzania

Didas Wambura, Parliament of the United Republic of Tanzania

09:00 Workshop 5b

mHealth in Botswana

Chair: Faisal M. Fadlelmola, University of Botswana

Utilizing Mobile Devices and Networks for Telemedicine and Public Health Intervention

Ryan Littman-Quinn, Botswana-UPenn Partnership, Botswana

Utilizing Mobile Devices and Networks to Increase Access to Information for Medical Education, Clinical Decision Making, and Patient Drug and Appointment Adherence

Additional presenters will be confirmed during February

09:00 Session 5c

Technology Enhanced Learning & ICT Skills

Chair: Love Ekenberg, 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

Yirsaw Ayalew Ayalew, University of Botswana

Sudanese Tertiary Education and Documentary Labour Market Rafaa Ashamallah Ghobrial, Ministry of Science & Technology, Sudan

Impacts of ICT on Learners and the Learning Process in Selected Cameroonian Secondary Schools

Mbangwana Moses Atezah, Educational Research Network for West and Central Africa, Mali

09:00 Workshop 5d 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

Zama Diamini (CSIR), Barend Taute (CSIR) & Jabu Radebe (Dept. of Communications)

A Cyber Security Awareness Toolkit for National Security: An Approach to South Africa's Cyber Security Policy Implementation Jackie Phahlamohlaka, CSIR, South Africa

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

Chairs: Hamdy Ahmed, AAU

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

ASREN

tbd

AfricaConnect

Catherin Stover, DANTE, UK

World Bank supported Initiatives

tbd

10:30 Coffee Break

11:00 Session 6a ICT for eInclusion and eAccessibility - Case Studies

Chair: Darelle Van Greunen, Nelson Mandela Metropolitan University

Chair: Darelle Van Greunen, Nelson Mandela Metropolitan University, South Africa

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Challenges and Solutions Towards Telecentre Sustainability: A Southern Africa Case Study

Mbuyu Sumbwanyambe, University of Johannesburg, South Africa

6 - 7] Advanc

Two Telecentre Projects illuminated using Behavioural Archaeology

David Hallberg, Stockholm University, Sweden

Mobile Banking as a Means to Provide Access to Financial Services

Jose Luis Gymez Barroso, UNED, Spain

Are you Mobile?

Gokulakrishnan Ramaswamy, Sutherland Global Services, Canada

Using Experience of the Digital Doorway to plan Deployment of Living Lab in Zandspruit

Tarirai Chani, Meraka Institute, South Africa

11:00 Session 6b

eHealth - Issues and Applications

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

Survey on Local Software Development for eGovernment of Uganda focused on eHealth Applications

Nabbanja Teddy, Kampala International University, Uganda

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

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

Development of a Communication Architecture for eHealth Service Delivery to Rural Communities in Developing Countries Francis Idachaba, Covenant University Ota, Nigeria

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

Chair: tbc

Stop Words for "Dr Math"

Laurie Butgereit, Meraka Institute, South Africa

Assessing the Use of Blackboard for Course Delivery in an Engineering Programme

Tunde Oladiran, 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 Lagatie, Katholieke Universiteit Leuven, Belgium

Use of ICTs for Educational Inclusion of the Mbororos in Higher Education in Cameroon

Yeba Judith Sama Mouokuio Meno, Educational Research Network for West and Central Africa, Cameroon

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

Chair: Marthie 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 Workshop 6e African REN II: Creating Synergy among the Initiatives Supporting research and Education Networking in Africa

Chair: Steve Song, Shuttleworth Foundation

Moderated Panel Discussion Focused on Presentation of Activities Being Undertaken and Opportunities for Synergy

EUC

tbc

World Bank Initiatives

Peter Materu (tbc)

USAID

thd

NUFFIC

tbd

NSF

Kevin L Thompson (tbc)

American Foundations

Andrea Johnson, Carnegie Corporation of New York

IDRC

Khaled Fourati

12:30 Lunch

14:00 Session 7a ICT for eInclusion and eAccessibility - Case Studies Chair: Mmboneni Muofhe, Department of Science and Technology, South Africa

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

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

What IT Professionals Should Know About IT Work in Developing Countries

Matti Tedre, Tumaini University, United Republic of Tanzania

Mobi-Incubation User Experience for Rural Entrepreneurs in Emerging Economies

Edna Chelule, SAP Research, South Africa

14:00 Session 7b

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 Karl Stroetmann, empirica GmbH, Germany

VITA: A Paperless Hospital Suite

James Katende, Botswana International University of Science & Technology

14:00 Session 7c 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 Nibafasha, Ecole Normale Supériure, Burundi

Inter-University Workshop for the promotion and popularization of ICT in Burundi

Oscar Irambona. Universite Grands Lacs. Burundi

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

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

Bagamoyo Caravan: Pervasive Learning Game for a Tanzanian museum

Teemu H. Laine, University of Eastern Finland, Finland

14:00 Workshop 7d 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

lan 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 Workshop 7e African REN III: Creating and Strengthening Global Strategic Alliances

Chair: tbc

Presentations will Focus on Opportunities for Working with Emerging African Regional RENs

tbc

CLARA

tbc

TEIN3

Byung-Kyu Kim

Other initiatives funded through DG AidCo that have strategic importance

15:30 Coffee Break

16:00 Session 8a ICT for elnclusion and eAccessibility - Issues

Chair: Raphael Mmasi, COSTECH, Tanzania

Achieving elnclusion: How can Digital Agenda for Europe Work For Africa?

Daniel Palmer, ECDL Foundation, Singapore

AAL for Supporting Elderly

Matjaz Gams, Jozef Stefan Institute, Slovenia

Women Excluded or Empowered? A Case for Local Digital Agenda

Iva Walterova, European Projects and Management Agency, Czech Republic

Admixture Practises in South African Languages: Impact on Speech-enabled Technology Design

Tembalethu Ndwe, University of Cape Town, South Africa

Convergence of ICT Sectors in the East African Community: Implications and Challenges for the Current Legislative and Regulatory Frameworks

Joseph Nyaga, InterDisciplinary Centre for Law and ICT, Belgium

16:00 Session 8b 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

Towards Integrating and Standardizing Electronic Medical Record Systems: The Case of Malawi

Marlen Stacey Chawani, University of Oslo, Malawi

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 8c 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

ICT Use by Students of the Higher Teachers Training College Yaounde: are there Gender Differences?

Ndangle Claire Nkehsera Massano, Educational Research Network Cameroon, Cameroon

16:00 Workshop 8d 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 Workshop 8e African REN IV: Applications and Discussion

Chair: tbc

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

Research Cooperation and Applications

Part 2: Roundtable Discussion: What have we learnt and what shall

we therefore do?

Presenters will be confirmed during February

17:30 End of Parallel Sessions



Friday, May 13, 2011

09:00 Sesssion 9a Rural Innovation Systems

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

How Sustainable are Rural Innovation Systems? Lessons Learnt from Existing Experiences in Africa

Daniele Clavel, Cirad, France

Vision of the Farm of Tomorrow

Karel Charvat, Ceske centrum pro vedu a spolecnost, Czech Republic

VLITE NODE – Solution for Precision Farming

Karel Charvat, Ceske centrum pro vedu a spolecnost, Czech Republic

Precision Farming and Rights of Access and Use to Privately Acquired Geodata and Telemetry Data

Lambert Grosskopf, University of Bremen/Bremen University of Applied Sciences, Germany

09:00 Session 9b Open Source Software - Applications and Case Studies Chair: Maxwell Otim, Uganda National Council for Science and Technology

Dileco: Distance Learning and Video Conferencing System - an Open Source Software Application

Gohar Sargsyan, IIP CREATE, Netherlands

An e-Government Application using Open Source Software Marco Guerrini, Sogei S.p.A., Italy

UNAM Event Notification System

Ashraf Ghania, University of Namibia, Namibia

Importance of Open Source Software for Development of ICT in Burundi

Melchicedec Nduwayo, Martin Luther King University, Burundi

The Open Source Landscape: A Case Study in Ghana

Frederick Yeboah, Kofi Annan Centre of Excellence in ICT (AITI), Ghana

09:00 Session 9c 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

Mulalu Mulalu Innocent, University of Botswana

Designing Pilot Micro Finance Information Dissemination Centres for the Eastern Cape: A process report

Annatjie Erasmus, AWE Business Process Engineering, South Africa

Crucial Considerations in One-to-One Computing in Developing Countries

Matti Tedre, Tumaini University, United Republic of Tanzania

[8-9] Advance

11:00 Workshop 9d 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 Jacob Ravn, Aalborg University, Denmark (tbc)

Networked Enterprises: A Case Study in Regional Healthcare Andrew Faughy, 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

Potential areas of joint research interest between EU and Africa

09:00 Workshop 9e eInfrastructures and the Sensor Web for Earth Observation and Simulation

Chair: Ingo Simonis, OGC-Europe & 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

eInfrastructures 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 elnfrastructures

Francois Engelbrecht, CSIR, South Africa

Sensor Web

Simon Jirka, 52north, Germany

10:30 Coffee Break

11:00 Session 10a ICT for Environmental Risk Management

Chair: Bernard Stevenot, SpaceBel, Belgium

ICTs in Development and Disaster Response: Opportunities and Challenges for Africa

Shakespear Mudombi, Tshwane University of Technology, South Africa

The Development and Implementation of eLog Technology for the Local and International Fishing Industry

Amos Barkai, Olrac, South Africa

Social Space for Geospatial Information

Karel Charvat, Ceske centrum pro vedu a spolecnost, Czech Republic

ICT for Automated Forecasting of Electrical Power Consumption: A Case Study in Maputo

Constantino Sotomane, Stockholm University, Sweden

11:00 Session 10b Digital Libraries and Intelligent Content

Chair: Sue Pendell, Colorado State University, United States

Supporting New Forms of Scholarship and Research in a 21st century African University Library

Andrew Harrison, STW Ltd, United Kingdom

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 Reasearch Infrastructure

Reto Krummenacher, University of Innsbruck, Austria

Design of Workflow Management system for Department of Information Services

Kebonye Timpa, Botswana Government

11:00 Session 10c

Technology Transfer

Chair: Kristiina Lahde, SAFIPA Programme, South Africa

Impact of Technology Incubators on Innovation Dynamics in the South African ICT sector

Erika Kraemer-Mbula, University of Brighton, United Kingdom

Challenges in transferring European business and technology models to the developing Southern African regions

Ali Imtiaz, Research Institute for Operations Management (FIR) at RWTH Aachen. Germany

Possible Use of Semantic Technologies for Development of Advanced e-Services in SADC Region

Borys Czerniejewski, IPM sp. z o.o., Poland

SMS Banking: A Tool for Creating Competitive Advantage to Privately Owned Indigenous Commercial Banks in Zimbabwe Takura Bhila, Limkokwing University of Creative Technology, Botswana

Online Consumers: Quest for Legal Protection in Tanzania Saphy Bullu, The Open University of Tanzania

09:00 Session 10d 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

Algorithm for Tracking of Vehicles Using Radio Frequency Identification Dipo Akomolafe, Joseph Ayo Babalola Univeristy, Ikeji Arakeji, Nigeria

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

11:00 Session 10e Cloud Computing

Chair: tbo

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

Mzomuhle Nkosi, 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

12:30 Lunch

13:30 Closing Plenary 11

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

Additional Plenary speakers will be published in February

Round Table Discussion Closing Remarks

Best Paper Award Best Demonstration Stand Award

Formal Closing of Conference

The Programme presented is accurate as at 15 February 2011 and is subject to change without notice at the discretion of the International Programme Committee Chair. The Final Programme will be published during April. Please view the Online Programme for the most up-to-date information.

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)
Authors - Botswana (Discounted Fee)
€100
€ 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

 Èarly 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)
 Delegate Botswana (Discounted Fee)
 €250
 €55
- Delegate Full Price ÈU 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

African States (1) Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroun, Cape Verde, Central African Republic, Chad, Comoros, Congo (Republic of), Congo (Democratic Republic of), Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea Bissau, Ivory Coast, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome & Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia and Zimbabwe.

EU New Member States (2) Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia

EU Candidate Countries (3) Croatia, Turkey.

Developing Countries (4) Asia (Bangladesh, Bhutan, Brunei, Cambodia, China, India, Indonesia, Laos, Malaysia, Maldives, Mongolia, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, Vietnam)

Caribbean and Pacific Countries (Antigua and Barbuda,

Islands, East Timor, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu)

Latin America (Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, Venezuela)

Mediterranean Partner Countries (Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Syrian Arab Republic, Tunisia, West Bank & Gaza Strip)

Russia & NIS (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan)

Western Balkan Countries (Albania, Bosnia-Herzegovina-Croatia, Former Yugoslav Republic of Macedonia, Serbia & Montenegro)

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 Exibitors (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 **net 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 Botswan 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 physican 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 identifing 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 and Posters

IST-Africa 2011 features an Exhibition, which provides the opportunity to showcase research results and applications through technology demonstrations, whether funded commercially or at national, regional or European level. While some space will be offered for posters, most of the Exhibition will be reserved for innovative technology demonstrations.

Demonstration stands are reserved for live technology demonstrations, but can feature early prototypes or a pre-commercial launch to a highly targeted, knowledgeable community.

Participation in the Exhibition is rewarding, as it provides a valuable opportunity to make international contacts and to build relationships with potential partners or clients from around the world.

To maximise demonstration and networking opportunities for exhibitors, all coffee breaks and the Networking Cocktail are held in the Exhibition area.

The **IST-Africa** Consortium is sponsoring a limited amount of exhibition space for suitable demonstrations and posters from Universities at **IST-Africa 2011** under a Competitive Call for Exhibitors. Potential exhibitors will be selected based on the quality and relevance of their submission to the conference themes, with preference given to those presenting innovative technology demonstrations. To access the Exhibition Application Form online, please visit

www.IST-Africa.org/Conference2011

Applications will be accepted up to **26 February**. All applicants who apply via the Competitive Call will receive feedback in mid **March**. Successful applicants must complete payment registration by **end of March**.

Since the level of competition for available exhibition stands is likely to be high, applicants are advised to clearly describe what they plan to demonstrate and the potential interest/value add for conference delegates.

Commercial enterprises who wish to exhibit will be asked to make a contribution towards the cost of space and shell scheme, subject to space availability.

General Terms & Conditions for Exhibitors

- 1. All demonstration stands must be manned during specific exhibition times (10:30 11:00, 12:30 14:00, 15:30 16:00 and on Wednesday 11 May during the Networking Reception from 18:00 20:00).
- 2. While the **IST-Africa** Consortium is sponsoring basic demonstration and poster space for dissemination of relevant research initatives, all exhibitors (demonstration stand or poster space) must register and pay as a conference delegate by **end of March**.
- 3. PCs, monitors and Internet access are additional cost items which are not sponsored. Each exhibitor is directly responsible for ordering and paying for such services, if required, with relevant local suppliers.
- 4. Stand material, posters and literature should be put in place between 15:00 18:00 on Tuesday 10 May or before 08:30 on Wednesday 11 May. Nothing should be removed before 14:00 on Friday 13 May. Exhibitors must remove all materials from their stands between 14:00 16:00 on Friday 13 May.
- 5. Material may be removed if the content or quality is not regarded as suitable by the **IST-Africa 2011** Organising Committee.
- 6. While security staff will be present and the conference will not be open to the general public, the organisers cannot take responsibility for any losses incurred and exhibitors should ensure that they have sufficient insurance cover.

The Conference Programme is subject to change at the discretion of the International Programme Committee Chair. You should always refer to the Conference Portal for the most up to date information. The **IST-Africa** Consortium is sponsoring an award for the best conference paper and an award for the best demonstration stand at the Exhibition.

Conference Portal & Delegate Showcase www.IST-Africa.org/Conference2011

IST-Africa 2011 Additional Supporting Organisations





















