



IST-AFRICA 2010 – 2011

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D3.3.3 IST-Africa Training Workshops in Burundi, Rwanda, Mauritius, Senegal, Cameroon and Kenya (Oct '09 – Nov '09)

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1. INTRODUCTION

The IST-Africa partners organised the following FP7 Training Workshops in November 2009, September 2010 and November 2010:

- 30 October '09, Bujumbura, Burundi (MESRS)
- 02 November '09, Kigali, Rwanda (MINISTR)
- 09 November '09, Port Louis, Mauritius (NCB)

MRS Senegal requested that the training workshop in Senegal will take place in November '10 around ICT Call 7 – 9.

MoHEST Kenya and ANTIC Cameroon requested that the workshops they are hosting take place in March 2011.

The workshops in October and November '09 focused on Africa 2010 Call and ICT-Call 6.

IIMC provided the workshop programme and training materials for each event and each national IST-Africa partner disseminated the materials and mobilise their national research community to attend.

The goal of the IST-Africa FP7 Training Workshops is to inform researchers and government officials responsible for supporting research at national level in Burundi, Rwanda, Mauritius, Senegal, Kenya and Cameroon about FP7-ICT and specific opportunities to participate, qualify organisations with the necessary track record and research capacity to participate in FP7-ICT, and promote such organisations to potential European partners. Each national IST-Africa partner was responsible for organising the workshop and mobilising the participation of the national research community. IIMC (IST-Africa Co-ordinator) provided the training during these workshops as part of the “Train the Trainer” strategy to support each national partner. The training workshops were very interactive in design, with frequent questions from participants as the workshops proceeded.

As part of the IST-Africa FP7 Training workshops, a consultation is held with the research community in each country in relation to mapping research activities and expertise at national level with research areas that can be funded under FP7-ICT. This analysis is then incorporated into the Deliverable 2.2 ICT Initiatives and Research Priorities.

2. TRAINING WORKSHOPS DURING OCTOBER – NOVEMBER 2009

IST-Africa organised FP7 Training Workshops in Bujumbura on Friday 30 October 2009, hosted by Ministry of Higher Education, Science and Technology, Burundi, in Kigali on Tuesday 03 November, hosted by Ministry in President's Office in charge of Information and Communication Technology, Rwanda and in Mauritius on Monday 09 November, hosted by National Computer Board.

Since Burundi, Rwanda and Mauritius were new countries within the IST-Africa Initiative; there was limited or no awareness in relation to FP7 or open Calls at national level within the government agencies or research centres. As a result these workshops covered all the basics: What is FP7, Who can participate, Geographic spread of the Consortium, Calls for Proposals, How to identify relevant research areas, FP7 Instruments, how to prepare a proposal and how proposals are evaluated.

These workshops focused on FP7-AFRICA-2010, which closed in January 2010 and FP7-ICT-Call 6. Based on the thematic areas open, the partners identified the relevant research centres to participate.

2.1 Burundi, 30 October 2009

The training workshop in Burundi was opened and facilitated by Hon. Dr Kibeya, Minister, Ministry of Higher Education and Scientific Research and attended by over 25 participants from the Université du Burundi; Université Espoir d'Afrique; Université Lumière de Bujumbura; Université des Grands Lacs; National Institute for Public Health and National Institute for Environment.

There was quite a lot of interest in relation to FP7. Thematic areas that were considered to be of most relevance included

Challenge 4: Technologies for Digital Content and Languages

- ICT 2011.4.3 Digital Preservation (Call 9)

Challenge 5: ICT for Health, Ageing Well, Inclusion and Governance

- ICT 2011.5.1 Personal Health Systems (Call 7)

Challenge 6: ICT for a Low Carbon Economy

- ICT 2011.6.3 ICT for efficient water resources management (Call 8)

Challenge 8: ICT for Learning and Access to Cultural Resources

- ICT 2011.8.1 Technology-Enhanced Learning (Call 8)

It was felt that the research community in Burundi could learn a lot from the research results that are currently available from running and finished EU-projects. As part of the Guide to FP7, IST-Africa provides links to relevant projects across the thematic areas, so researchers can learn from

running projects, get a better understanding of the current state-of-the-art in Europe and identify relevant partners who have been successful in past Calls.

2.2 Rwanda, 03 November 2009

The training workshop in Rwanda was facilitated by the Ministry in President's Office in charge of Information and Communication Technology and hosted by the Kigali Institute of Technology and Management. The workshop was well attended with participants from Kigali Institute of Technology and Management; National University of Rwanda; Kigali Independent University; Byumba Polytechnic Institute; Kigali Institute of Education; Kigali Health Institute; Higher Agriculture and Veterinary Institute; Kibungo University of Agriculture, Technology and Education and newly established National Council for Science and Technology. Separate meetings were also held with Rwanda Research Council Association and Rwanda Development Board. There was not a high level of awareness in relation to FP7 and as a result the workshop was very interactive with lots of questions. Thematic areas that were considered to be of most relevance included Trustworthy ICT, Mobile Applications, Digital Libraries, Technology-Enhanced Learning, eHealth and Water Management.

2.3 Mauritius, 09 November 2009

The training workshop in Mauritius was hosted and facilitated by the National Computer Board. Representatives were invited from the Ministry of Education, Ministry of Health, Ministry of Environment, University of Mauritius; University of Technology, Mauritius; Mauritius Research Council and National Information and Communication Technology Evaluation and Research Network (NICTERN). There was very limited awareness of FP7 in Mauritius.

The following mapping between expertise and relevant thematic areas has been undertaken with the institutions:

➤ University of Mauritius

- Bioinformatics

The objectives of this group are to study algorithms used in Bioinformatics, to contribute new algorithms, to study how Bioinformatics data is stored and accessed throughout the world, and to look into how Mauritius can contribute to Bioinformatics Data Banks. This can be map to **Challenge 5 – ICT for Health** under objective ICT-2011.5.3

- Efficient Computing

The main aim of the research group is to propose computer-based solutions that improve the productivity of the individual and, consequently, improve the effectiveness of the organisation the individual belongs to. The current activities are:

- Consultancy for Aapravasii Ghat Trust fund (Aapravasii Ghat is a UNESCO world heritage centre)
- Proposal for EDP in Leveraging Web 2.0 in Mauritian Enterprises

This is relevant to ICT **Challenge 8 ICT for Learning and Access to Cultural Resources** and under objective ICT-2011.8.2

- IPv6

IPv6 is the new generation Internet Protocol devised to replace the previous one (IPv4) which cannot provide sufficient internet addresses to cater for future needs. Also IPv6 provides for simpler configuration and better support for real-time data. The objectives of the group are to perform verifications on how the performance of different network-based applications can be improved using IPv6, how the QoS support available in IPv6 can be exploited and also to look into ways of helping the deployment of IPv6 in Mauritius. This is relevant to ICT **Challenge 1, Network of the Future** – objective 1.1.

- Context awareness

Context-Awareness is an emerging area of Computer Science, whereby computer systems can make decisions and take actions based on context information such as location, time temperature or the presence of specific individuals. The objective of this group is to investigate how the use of context-awareness can improve the lives of users and how context-awareness can be put to the service of the Mauritian society. This is relevant to **Challenge 5 – ICT for health**. The current status is that the University of Mauritius is working on a paper entitled “Access Control Mechanisms for Collaborative Context-Aware HealthCare Services in Mauritius”.

- Intelligent systems

The group concentrates on research in fields such as Biometrics, Computer Vision, Artificial intelligence and Human Computer Interaction

- Mobile and Ubiquitous Computing

The main objective of this research group is to use these technologies to enhance the quality of life of human beings. The research group will investigate the human, social, technical, hardware and software issues involved with mobile and ubiquitous computing. Research projects in different areas including infrastructure development, identifying new concepts and building ubiquitous applications will be undertaken. The group will also address the issue of expert human resource development in this area. The focus will be making the group “one of the best in the region” to start with.

➤ **University of Technology, Mauritius**

- Implementation of a USSD API
- Impact of broadband on the Mauritian economy
- Digital Propagation models for Mauritius
- Optimisation of mobile applications protocols
- A technology independent framework for partitioning & retracting context awareness

applications in pervasive environments

- IP traceback
- IS outsourcing for SIDS
- Data mining using agent technology in distributed systems
- Web Caching algorithms for highly customizable portals
- ERP for SMEs
- Learning difficulties in geometry
- Web pages optimal search
- Mobile power optimization
- Matlab tool development on options

➤ **Mauritius Research Council**

- Adaptive Coding Techniques for Time Varying Channels

Adaptive coding techniques for time varying channels such as HF (2-30) MHz have been under investigation for several decades [Honary 1981, Katakol 1987, Zolghadr 1989, Bate 1992, etc...]. Forward error correction applied to these channels are designed to give the desired performance for the worst channel rate. Hence when the channel is relatively error free unnecessary error correction power and redundancy is being employed. This naturally reduces the overall information rate. In order to transmit data efficiently in a time varying channel an ideal error control scheme should achieve a lower average output bit error rate than that obtainable with a fixed rate system. This is done by matching the code to the changing channel conditions.

A number of embedded coding techniques employing block codes for time varying channels have been proposed and investigated. A novel statistical channel evaluation technique based on the trellis of block codes has also been devised. The HF link has been established with a receiver station in Mauritius and measurement of data from UK has shown that it is working as expected.

- Developing successful entry strategies for BPO operations in Mauritius

The main objectives of this project are to identify actions required to enhance the competitiveness of Mauritius as a Global BPO service provider and profile the country to become a natural offshore location for major companies and business partners for outsourcing business services.

The scope of the project is to:

- Understand BPO and its business scope for Mauritius

- Briefly study the global BPO industry and identify sub-sectors compatible with capabilities available in Mauritius
- Generic BPO centre selection criteria
- Review and analysis of Mauritius as an offshore BPO service centre
- Proposition of effective enabling policies for Mauritius and recommendations.
 - Electronic Commerce tools and methodology using web-based technologies
 - Evaluation of the importance of corporate e-learning in providing a competitive edge to Mauritian companies

E-Learning enables learners to access, at any time and from anywhere, learning materials, forums with fellow learners, assistance and feedback from a trainer or tutor as well as assignments and tests. This implies a shift in the focus of training from trainer-centred to learner-centred.

The focus of the study was to assess the following:

- awareness of e-learning,
- readiness and barriers to embark and sustain e-learning initiatives,
- possible areas to implement e-learning.

This is relevant to **Challenge 8** – Technology-Enhanced Learning

- Information and Communications Technology Thematic Working Group

The Council constituted a Science & Technology Think Tank with a view to revising its research priorities. The Think Tank recommended that the future priorities of MRC be centered on nine themes, which are as follows:

- Land and Land Use
- Water Resources
- Energy and Energy Efficiency
- Marine Resources
- Biomedical Research
- Biotechnology
- Manufacturing Technology
- Science & Technology Education
- **Information & Communications Technology**
 - IT Security
 - MU-CERT

➤ **NICTERN**

National Information and Communication Technology Evaluation and Research Network (NICTERN) comprise of people tasked with responsibilities of analysing collected data, undertaking research on various aspects of the NICTSP and produce, on a biennial basis, a Mauritius State of the ICT Report which would be an integrated document that would cover not just progress made on the different dimensions of interventions, but also recommend further course of action.

To date the NICTERN has developed a Mauritius ICT Indicators Web Portal¹, which is a one-stop shop access for information on indicators about the development of the Information Society and the Information Economy in Mauritius. It provides decision makers with early, accurate ICT indicators that will help them in setting the policies and strategies related to the ICT sector.

¹ <http://www.gov.mu/portal/sites/indicators/index.html>