



Makerere University

Research and Teaching on Makerere University

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Outline



Makerere University

- ▶ **Universities in Uganda**
 - ▶ ICT Faculties and Departments

- ▶ **Research on Communications**
 - ▶ Makerere University

- ▶ **Challenges**

Universities and ICT units in Uganda



Makerere University

- ▶ The Number
 - ▶ 17 Accredited Universities
 - ▶ Majority are fairly recent (< 10 years old)
 - ▶ **Makerere is the oldest, since 1922**

- ▶ ICT Faculties/Departments and offered ICT programs
 - ▶ 14 in total
 - ▶ 10 offer maximum of Bachelor programs
 - ▶ 3 offer Master programs
 - ▶ **1 offers all levels**

- ▶ **Makerere University (MAK)**
 - ▶ MAK offers programs at all levels
 - ▶ 2 ICT based Faculties, 1 School

ICT Research Capacity



Makerere University

- ▶ ICT Departments in HE institutions
- ▶ PhD holders
- ▶ Graduate programs (MSc, PhD)
- ▶ Capacity building initiatives

- ▶ External collaborations, Publications, Community outreach, etc

Teaching on ICT , MAK



Makerere University

	ICT based Departments
Faculty of Computing and IT	Computer Science (BSc, MSc, PhD) Networks (BSE, MSc, PhD) Information Technology (BSc, MSc, PhD) Information Systems (BSc, MSc, PhD)
Faculty of Technology	Electrical Engineering (BSc, MSc, PhD) Telecommunications Eng. (BSc, MSc, PhD)
Institute of Library and Information Sciences	Information Sciences (BSc)

ICT Research Capacity, MAK

Faculty of Computing and IT



Makerere University

Departments	Graduate Programs	Existing (PhD) Capacity	Training (PhD) Capacity
Computer Science	PhD MSc	5	17
Networks	PhD MSc 3 Options	2	5
Information Technology	PhD MSc 4 Options	3	7
Information Systems	PhD MSc 4 Options	4	16
Total	4 PhD 12 MSc	14	45



Makerere University

ICT Research Capacity, MAK

Faculty of Computing and IT: 6 Research Groups

Research Groups in Department of Networks

1. Networking Research Group (Headed by Dr. Idris A. Rai)

Design and Performance Analysis of:

- Communication Network Protocols
- Wireless mesh networks for broadband access
- Sensor networks
- Overlay networks

2. Mobile Computing and Communications (Headed by Fisseha Mekuria)

- Mobile & Wireless Communications Technology & Services
- QoS & Mobile Multimedia Networking
- Next Generation Networks and Developing Regions (NGN-DR)
- Mobile Application Software Development
- Mobile Technology Usability, Content & Service Localization
- Innovative Mobile Services (IMS), Technology and Societal Constraints

ICT Research Capacity, MAK

Faculty of Computing and IT



Makerere University

Some of the Research Collaborations

University of Groningen, NL

Radboud University, Nijmegen, NL

University Technology of Eindhoven, NL

Computer Laboratory, Cambridge University, UK

Networking, Security, Computing for future of the planet, etc

Nelson Mandela University, SA

University of Western Cape, SA

Southern University, USA

International Telecommunication Union (ITU Centre of Excellence)

Publications

Number of publications for 2007/2008 = 61 papers (16 journals/45 conferences)

Bi annually International journal on ICT research (IJCIR)

A yearly International conference on Computing and ICT research, rd-6th August

8 Private/Public Sector Initiatives

ICT Research, MAK



Makerere University

Faculty of Technology: Department of Electrical Engineering

Offers courses on

Power Systems

Machines

Telecommunications

Control

Electronics

Postgraduate Studies

Propagation Systems

Renewable Energy

Rural Electrification

Digital Electronics



Research Challenges

- ▶ Lack of research culture
- ▶ Lack of local catalyst, appreciation, and support
- ▶ Lack of funding, equipments, etc
- ▶ Lack of enough qualified researchers

- ▶ Challenges in training new researchers
- ▶ Graduate students are full time employees
 - ▶ Need for research funding to support full time students



Makerere University

Thank you!