## Contents

### Communication Infrastructure

Throughput Performance of Interference Mitigation Techniques in Cognitive Femtocell Networks ................................................................. 3
\textit{Peterson Mwesiga, Julius Butime, and Richard Okou}

Inclusive Ubiquitous Access - A Status Report ................................. 13
\textit{Amos Nungu, Robert Olsson, Björn Pehrson, Jiawei Kang, Daniel Kifetew, and Alisher Rustamov}

Performance Evaluation of Scheduling Algorithms in Fixed WiMAX Network ................................................................. 23
\textit{Okus Paul, Karim Djouani, Anish Kurien, and Thomas Olwal}

Enhancing Performance in Cognitive Radio Networks ....................... 32
\textit{Roseline Nyongarwizi Akol and Solomon Muhumuza}

Enabling Converged Satellite and Terrestrial Access Networks ............ 43
\textit{Christian Niephaus, Mathias Kretschmer, Gheorghita Ghinea, and Senka Hadzic}

Empirical Path Loss Models for 802.11n Wireless Networks at 2.4 GHz in Rural Regions ................................................................. 53
\textit{Jean Louis Fendji Kedieng Ebongue, Mafai Nelson, and Jean Michel Nlong}

Quantifying the Effects of Circuitous Routes on the Latency of Intra-Africa Internet Traffic: A Study of Research and Education Networks ............................... 64
\textit{Josiah Chavula, Nick Feamster, Antoine Bagula, and Hussein Suleman}

Towards Centralized Spectrum Allocation Optimization for Multi-Channel Wireless Backhauls ................................................................. 74
\textit{Michael Rademacher, Senka Hadzic, Philipp Batroff, Osianoh Glenn Aliu, and Mathias Kretschmer}

Towards a Practical Cognitive Channel Allocation Scheme .................. 84
\textit{Dennis George Ozhathil, Geoffrey Mark Kagarura, Dorothy Kabagaju Okello, and Roseline Nyongarwizi Akol}

Green Communications: Large vs Small Cell Deployment .................... 93
\textit{Dorothy Okello, Moses Niyonshuti, Moureen Nampijja Lukoye, and Edwin Mugume}
Health

Adoption and Use of Mobile Phones for Maternal Healthcare Service Delivery ........................................ 103
  Gorretti Byomire and Gilbert Maiga

A Model of e-Health Acceptance and Usage in Uganda: The Perspective of Online Social Networks ........................................ 115
  Edward Miiro and Gilbert Maiga

Field Testing a Drug Management Application at Ugandan Health Facilities . . . 127
  Julianne Sansa Otim, Celestino Obua, Grace Kamulegeya, Alex Mwotil, and Perez Matsiko

IoT, Cloud Computing and TVWS

  Luzango Pangani Mfupe, Litsietsi Montsi, and Fisseha Mekuria

Addressing Privacy in Cloud Computing Environment .............................. 144
  Mangqoba V. Shabalala, Paul Tarwreyi, and Matthew O. Adigun

Energy Efficient Data Caching in Wireless Sensor Networks:
  A Case of Precision Agriculture ........................................ 154
  Kizito Patrick Musaazi, Tonny Bulega, and Stephen Mutaawe Lubega

A Survey of TV White Space Measurements ..................................... 164
  Timothy X. Brown, Ermanno Pietrosemoli, Marco Zennaro, Antoine Bagula, Hope Mauwa, and Sindiso M. Nleya

ICT4D Applications

ICT4Governance in East Africa ........................................ 175
  Varyanne Sika and Nanjira Sambuli

Computer Education and Training: Human Capacity Building for e-Government in Malawi ........................................ 180
  Patrick Albert Chikumba and Martin Msendema

Implications of Institutional Client-Server Geographic Information System:
  A Case of Mzuzu Agriculture Development Division .......................... 189
  Daniel Nkosi and Patrick Albert Chikumba

Electricity Theft in Kampala and Potential ICT Solutions ..................... 198
  Ruth Mbabazi Mutebi, Julianne Sansa Otim, Richard Okou, and Ben Sebitosi
Access to Information

Availability and Use of ICT in Rural Areas: The Case of Bunda District in Tanzania ................................................................. 209  
    Amos Nungu

Building an Argument for Internet Expansion in Dwesa - an Under-Serviced Rural Community in South Africa. .................................................. 219  
    Sifiso Dlamini, Moshe T. Masonta, and David L. Johnson

A Comparison of Four End-User Devices as Thin Clients for Public Access to the Internet in Poor Communities ........................................... 229  
    Kevin Duff, Ingrid Siebörger, and Alfredo Terzoli

ICT4D Miscellaneous

MalariaScope’s User Interface Usability Tests: Results Comparison Between European and African Users ....................................................... 241  
    Tiago Devezas, Luis Domingos, Ana Vasconcelos, Carlos Carreira, and Bruno Giesteira

Validating a Structured ICT for Development Evaluations Approach ........... 251  
    Florence Nameere Kivunike, Love Ekenberg, Mats Danielson, and F.F. Tusubira

Bootstrapping Software Engineering Training in Developing Countries: Return on Experience at the University of Ouagadougou ....................... 261  
    Tegawendé F. Bissyandé, Jonathan Ouoba, Daouda Ahmat, Arthur D. Sawadogo, and Zakaria Sawadogo

Performance Evaluation of Fingerprint Biometrics Systems for e-Business Access Control ................................................................. 269  
    O.A. Esan, I.O. Osunmakinde, and S.M. Ngwira

    Comfort Fiki Lukhele, Ernest Ketcha Ngassam, and Isaac Osunmakinde

Understanding the Value of Evaluating ICT Models to Improve Medium and Small Enterprises ........................................................... 293  
    Anass Bayaga, Paul Tarwireyi, and Emmanuel Adu

Author Index ................................................................. 303
e-Infrastructure and e-Services for Developing Countries
6th International Conference, AFRICOMM 2014, Kampala, Uganda, November 24-25, 2014, Revised Selected Papers
Nungu, A.; Pehrson, B.; Sansa–Otim, J. (Eds.)
2015, XIII, 304 p. 112 illus., Softcover
ISBN: 978-3-319-16885-2