

Preface

We Are One Year Old!

The African Journal of Information and Communication Technology is one year old by the September 2006 Issue and for us it is a reason to celebrate! Not only has it grown in terms of the quality and volume of submissions received, it has grown also in terms of its readership and subscription. It continues to enjoy the privileges of an Open Journal readership and international expert peer review. To those numerous reviewers we are very grateful for your support and technical leadership.

This Issue focuses on papers from the hot research area of sensor technology and its applications.

The first paper by Bialkowski et al describes the application of microwave sensors for the detection of breast cancer. It presents a “design of compact wideband microwave reflectometers for the purpose of inclusion in a breast cancer detection system”. Using two compact six-port reflectometer configurations it claims to provide a wider operational bandwidth” which could be found suitable for broadband imaging of breast cancer.

Tabassum, Mamun, Haque and Urano in the second paper proposed an energy-aware and delay-constrained data collection protocol for wireless sensor networks. The contribution of the authors is based on a proposed hierarchical chain of deployed sensors to collect information from a target field with data fusion at every node level before transmission is undertaken. The protocol uses the higher energy nodes for more frequent long distance transmissions to even out energy expenditure between nodes in the network irrespective of their physical locations. The authors have shown that the protocol proposed outperforms other hierarchical protocols like LEACH and PEGASIS in both the cases of energy consumption and time requirements. Their method extends the overall lifetime of the sensor network.

The third paper by So, Wang and Chandra delves into the existing problem of security of node mobility between two networks using Mobile IP. Their objective is to secure the node. The method is based on Host Identity Protocol (HIP), a security protocol which provides mobility management and multi-homing with new namespace. The authors have “introduced a Secure Mobile IP with HIP Style Handshaking and Readdressing (SMIP), which provides stronger security, better performance and lower binding cost than Mobile IPv6 does in binding update process. The dependency of the home agent in the new scheme is dramatically decreased. The initiated scheme integrates the primary features of two completely different mobility management solutions and sets up a migration path from mobile-IP based solution to a public-key based solution in mobile IP networks”.

The future appears attractive for the Journal and we plan to publish a couple of issues on emerging hot topics in ICT. As a result, a Guest Editorship Issue is planned for June 2007 on a hot topic of interest to the international ICT community with interest in wireless Internet and next generation networks (NGN). We commend this Issue to you.

Editorial Team (Issue 4)

Prof(Adj++) Johnson I Agbinya (Editor in Chief) University of Technology, Sydney, Australia; ++Department of Computer Science, University of the Western Cape, Bellville, South Africa.



Johnson I Agbinya received his PhD in Electronic Engineering at La Trobe University in 1994 and subsequently

joined Australia's premier research institute, Commonwealth Scientific and Industrial Research Organisation (CSIRO) as a Senior Research Scientist where he undertook research in biometrics, pattern recognition and signal processing. At CSIRO he developed patented speech recognition and face recognition systems. He joined Vodafone Australia in 2000 as a Principal Engineer responsible for its industrial research administration on mobile and wireless communication where he served as its sole representative in several international standard bodies and the Australian Telecommunication CRC Executive Committee. He also contributed to Vodafone Australia's preliminary design of 3G radio access network in the Emerging Technologies Group. He also represented Vodafone Australia in the Vodafone Research Group from where he was spotted and appointed as Adjunct Professor in 2002 at the Department of Computer Science, University of the Western Cape (UWC). He is a key member of the Telkom / Cisco Centre of Excellence in Internet Computing at UWC.

Prof. Agbinya is currently a Faculty member in Information and Communication Group at the University of Technology, Sydney. His research interests are in wireless communications, sensor networks, digital identity management systems, networks on mobile platforms and in uncovered areas.

Prof. H. Anthony Chan (Editor)

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H Anthony Chan received his PhD in physics at University of Maryland, College Park in 1982 and then continued post-

doctoral research there in basic science. After joining the former AT&T Bell Labs in 1986, his work moved to industry-oriented research in areas of interconnection, electronic packaging, reliability, and assembly in manufacturing, and then moved again to network management, network architecture and standards for both wireless and wireline networks. He had designed the Wireless section of the year 2000 state-of-the-art Network Operation Center in AT&T. He was the AT&T delegate in several standards work groups under 3rd generation partnership program (3GPP). During 2001-2003, he was visiting Endowed Pinson Chair Professor in Networking at San Jose State University. In 2004, he joined University of Cape Town as professor in the Department of Electrical Engineering.

Prof. Chan is Administrative Vice President of IEEE CPMT Society and had chaired or served numerous technical committees and conferences. He is distinguished speaker of IEEE CPMT Society and is in the speaker list of IEEE Reliability Society since 1997.

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