



The 7th Annual PostGraduate Symposium
on
The Convergence of Telecommunications,
Networking and Broadcasting

26-27 June 2006

PETER JOST ENTERPRISE CENTRE
Liverpool John Moores University
Liverpool, U.K.

PROGRAMME

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Day 1 – Monday 26th June 2006

Registration	09:30 – 12:00	
Lunch	12:00 – 13:00	
WELCOME SPEECHES		
Prof. Madjid Merabti, <i>Liverpool John Moores University</i> Prof. Diane Meehan, <i>Liverpool John Moores University</i>	13:00 – 13:10	
OPENING KEYNOTE SPEECH (Session Chair – Prof. David Hutchison, Lancaster University) <i>Main Lecture Theatre</i>		
Prof. Michael Fry, <i>The University of Sydney</i> “Commons and Walled Gardens: Some Challenges for Networking Research”	13:10 – 14:10	
SESSION 1A – Mobile Computing (Session Chair – Dr. Mike Fisher, BT Labs) <i>Main Lecture Theatre</i>		
A Dynamic QoS Provisioning Model for Network Mobility R. M. Noor, C. Edwards, <i>Lancaster University</i> Direct IP Based Mobile-to-Mobile Video: First Phase Results S. E. Davies, S. Gardner, <i>University of Glamorgan</i> Beyond Third Generation (B3G) Mobile Communications, Broadband Access and Development in Europe R. Wadekar, L. Fagoonee, <i>Lancaster University</i> Mobile Location System Using Netmonitor and MapPoint server S. Hemani, M. Oussalah, <i>University of Birmingham</i> Context Driven Information Systems for Museum Visitors N. Linge, D. Parsons, D. Bates, <i>University of Salford</i> ; R. Holgate, P. Webb, <i>Manchester Museum of Science & Industry</i> ; D. Hay, <i>BT Group Archives</i> ; D. Ward, <i>SETPOINT</i>	14:20 – 16:00	
SESSION 1B – Distributed Computing (Session Chair – Dr. Kate Booth, University of Salford) <i>Conference Room A</i>		
Orchestrating Grid Services using BPEL and Globus Toolkit 4 K. L. L. Tan, K. J. Turner, <i>University of Stirling</i> An Efficient Turning Busy List Sub-Mesh Allocation Strategy for 3D Mesh Connected Multicomputers S. Bani-Mohammad, M. Ould-Khaoua, L. M. Mackenzie, <i>University of Glasgow</i> ; I. Ababneh, <i>Al al-Bayt University, Jordan</i> A Framework for Economic Scheduling in Grid Computing using Tender/Contract-net Model M. Bsoul, I. Phillips, C. Hinde, <i>Loughborough University</i> An Efficient Resource Prediction Model for Mobile Grid Environments U. Farooq, <i>Punjab University College of Information Technology, Pakistan</i> ; S. Mahfooz, W. Khalil, <i>University of Peshawar, Pakistan</i> P2P Overlay Network to Support E-commerce G. K. Arora, M. Hanneghan, M. Merabti, <i>Liverpool John Moores University</i>		
SESSION 1C – Network Security I (Session Chair – Dr. Bob Askwith, Liverpool John Moores University) <i>Conference Room B</i>		
Key Management for Wireless Sensor Networks in Building Environments K. Kifayat, M. Merabti, Q. Shi, D. Llewellyn-Jones, <i>Liverpool John Moores University</i> Evaluating Security Issues in Mobile Internet Healthcare Systems K. Malhotra, S. Gardner, <i>University of Glamorgan</i> Securing Data Transfer in Wireless Sensor Networks E. Ekonomou, K. Booth, <i>University of Salford</i> A Schema for Cryptographic Keys Generation using Hybrid Biometrics K. Voderhobli, C. Pattinson, H. Donelan, <i>Leeds Metropolitan University</i> Classification of Security Authentication for Roaming User in Mobile Networks J. AL-Saraireh, S. Yousef, <i>Anglia Ruskin University</i>		
Coffee Break	16:00 – 16:10	

SESSION 2A – Mobile Ad Hoc Networking (Session Chair – Dr. Chris Edwards, Lancaster University) <i>Main Lecture Theatre</i>		
<p>Hidden and Exposed Nodes and Medium Access Control in Wireless Ad-Hoc Networks M. J. Saeed, M. Merabti, R. J. Askwith, <i>Liverpool John Moores University</i></p> <p>Fibonacci Increment Backoff Algorithm for MAC Protocol in Mobile Ad Hoc Networks S. S. Manaseer, M. Ould-Khaoua, L. M. Mackenzie, <i>University of Glasgow</i></p> <p>Group Management Framework for Mobile Ad Hoc Networks A. Khan, M. Merabti, R. J. Askwith, <i>Liverpool John Moores University</i></p> <p>Testimony-based Isolation: New Approach to Overcome Packet Dropping Attacks in MANET D. Djenouri, <i>CERIST Center of Research, Algeria</i>; N. Badache, <i>USTHB Univerity, Algeria</i></p> <p>On The Forwarding Probability for On-Demand Probabilistic Route Discovery in MANETs A. Jamal, M. Ould-Khaoua, L. M. Mackenzie, M. Bani-Yassin, <i>University of Glasgow</i></p>		
SESSION 2B – Networking Protocols (Session Chair – Dr. Despina Saporilla, Cisco Systems) <i>Conference Room A</i>		
<p>Performance Evaluation of TCP over Wireless Channel Conditions R. Taank, X.-H. Peng, <i>Aston University</i></p> <p>Towards Control Algorithms for Distributed Wireless Networks N. Johnson, S. McLaughlin, J. Thompson, <i>University of Edinburgh</i></p> <p>Multicast Routing Protocols in a Satellite Environment N. Ninan, G. Fairhurst, <i>Aberdeen University</i></p> <p>H.510 Protocol and HMAL Filter to Support H.323 Multimedia Services in UMTS Networks M. AL Nabhan, S. Yousef, J. AL-Saraireh, <i>Anglia Ruskin University</i></p>	16:10 – 17:30	
SESSION 2C – Applications I (Session Chair – Prof. A. Taleb-Bendiab, Liverpool John Moores University) <i>Conference Room B</i>		
<p>Applicability of Autonomic Computing to E-Government Problems S. Furlong, <i>Liverpool John Moores University</i></p> <p>On the accuracy of an Indoor Location-sensing Technique Suitable for Impulse Radio Networks W. Guo, <i>The University of Manchester</i></p> <p>Design of a Novel Indoor Location Sensing Mechanism using IEEE802.11e WLANs H. Yuan, Q. Ni, W. Yao, Y. Song, <i>Brunel University</i></p> <p>Proxy Compilation, Even Better Than Ever? J. Li, D. Watson, <i>University of Sussex</i></p>		
Conference Dinner Tour - Western Approaches, Liverpool War Museum Dinner - Racquet Club		19:00 prompt

Day 2 – Tuesday 27th June 2006

SESSION 3A – Network Management (Session Chair – Dr. Frank Ball, Bournemouth University) <i>Main Lecture Theatre</i>	
<p>A Simulated Traffic Engineering Model of IP/MPLS Network Enhancing Multi-Service Performance K. Wang, <i>Liverpool John Moors University</i>; C.-P. Chuang, L.-Y. Lin, <i>National Taiwan Normal University</i></p> <p>Using TCP Packet Size Distributions for Application Detection L. Bo, D. J. Parish, J. M. Sandford, <i>Loughborough University</i></p> <p>Using IPv4 ID field for Passive OS Fingerprinting D. Llamas, C. Allison, A. Miller, <i>University of St Andrews</i></p> <p>Management of Services in Ubiquitous Environments: using Ontologies for Dealing with Quality-of-Service R. M. P. Vanni, E. S. Moreira, <i>Universidade de São Paulo, Brazil</i></p> <p>A Survey of Network Management Architecture in Wireless Sensor Network M. Yu, H. Mokhtar, M. Merabti, <i>Liverpool John Moores University</i></p>	
SESSION 3B – Wireless Communication Theory (Session Chair – Dr. Steven Hill, University of Salford) <i>Conference Room A</i>	
<p>Coded-DPIM for Non-Diffuse Indoor Optical Wireless Communications W. O. Popoola, Z. Ghassemlooy, M. Amiri, <i>Northumbria University</i></p> <p>Multi-rate Parameterized Viterbi Decoding for Partial Reconfiguration B. M. Heravi, B. Honary, <i>Lancaster University</i></p> <p>Crosstalk Investigation of an All-Optical Serial-to-Parallel Converter Based on the SMZ M. F. Chiang, Z. Ghassemlooy, W. P. Ng, H. L. Minh, V. Nwanafio, <i>Northumbria University</i></p> <p>Study on G-OFDM Noise Models N. M. A. E. D. Wirastuti, J. M. Noras, S. M. R. Jones, <i>University of Bradford</i></p> <p>Performance of Convolutional Coded Dual Header Pulse Interval Modulation in Infrared Links S. Rajbhandari, Z. Ghassemlooy, N. M. Aldibbiat, <i>Northumbria University</i></p>	9:00 – 10:40
SESSION 3C – Modelling (Session Chair – Mr. Tim Trew, Philips Labs) <i>Conference Room B</i>	
<p>Combined Multiuser Detection with Improved “Complexity-Detection” Performance Z. Quan, Y. Zakharov, <i>University of York</i></p> <p>An Imbedded Markov Chain Based Method for an M/M/1/N Queue D. Kouvatso, S. Tantos, <i>University of Bradford</i></p> <p>Measurements and Modelling of the Wideband Mobile Radio Channel in Residential Suburban Environments M. H. Unar, <i>University of Bath</i>; I. A. Glover, <i>University of Strathclyde</i></p> <p>On the Analysis of the $M^{Geo}/M^{Geo}/1/N$ Queue with Batch Poisson Arrivals and Service Completions W. Li, R. Fretwell, D. Kouvatso, <i>University of Bradford</i></p> <p>Performance Modelling of a Novel Queuing Model for Multimedia Transmission over 3.5G Downlink Using MOSEL-2 S. Y. Yerima, K. Al-Begain, <i>University of Glamorgan</i></p>	
Coffee Break	10:40 – 10:50

SESSION 4A – Wireless Sensor Networks (Session Chair – Dr. Colin Allison, University of St Andrews) <i>Main Lecture Theatre</i>	
<p>A Coordination Protocol for Wireless Sensor and Actor Networks F. Bouhafas, M. Merabti, H. Mokhtar, <i>Liverpool John Moores University</i></p> <p>Asset Tracking: Beyond RFID A. Mason, A. Shaw, A. I. Al-Shamma'a, <i>Liverpool John Moores University</i>; T. Welsby, <i>Associated Bonded Cables Ltd.</i></p> <p>Validation of ESRT and Introduction to Energy Preservation by Traffic Measurement in Wireless Sensor Networks I. Khemapech, A. Miller, I. Duncan, <i>University of St Andrews</i></p> <p>MBRP: Magnetic-Based Routing Protocol for Mobile Sinks Wireless Sensor Networks S.-H. Chang, M. Merabti, H. Mokhtar, <i>Liverpool John Moores University</i></p> <p>Energy Efficient Intra Cluster Head Communication Protocol (EICHCP) N. Israr, I. Awan, <i>University of Bradford</i></p>	
SESSION 4B – Network Security II (Session Chair – Dr. David Llewellyn-Jones, Liverpool John Moores University) <i>Conference Room A</i>	
<p>A FPGA-BASED Evaluation of Security Algorithms for Wireless Sensor Network X. Xiong, S. L. Hill, <i>University of Salford</i></p> <p>NEMESI: Using a TCP Finite State Machine against TCP SYN Flooding Attacks A. Gemona, I. Duncan, A. Miller, <i>University of St Andrews</i></p> <p>Machine Learning for Post-Event Timeline Reconstruction M. N. Khan, I. Wakeman, <i>University of Sussex</i></p> <p>A Framework to Detect Novel Computer Viruses via System Calls A. A. Abimbola, J. M. Munoz, W. J. Buchanan, <i>Napier University</i></p> <p>A Node Misbehaviour Detection Mechanism for Mobile Ad-Hoc Networks T. Fahad, R. J. Askwith, <i>Liverpool John Moores University</i></p>	10:50 – 12:30
SESSION 4C – Simulation and Modelling (Session Chair – Prof. Demetres Kouvatsos, University of Bradford) <i>Conference Room B</i>	
<p>Long-range Dependent Self-similar Network Traffic: A Simulation Study to Compare Some New Estimators K. M. Rezaul, R. Gilchrist, A. Pakštas, <i>London Metropolitan University</i></p> <p>Topology and Congestion Invariant in Global Internet-Scale Networks Z. Huang, R. Mondragón, <i>Queen Mary University of London</i></p> <p>Network Topology Generation and Discovery Tools M. Azizur Rahman, A. Pakštas, <i>London Metropolitan University</i>; F. Z. Wang, <i>Cranfield University</i></p> <p>Web Traffic Analysis Based on EDF Statistics K. M. Rezaul, A. Pakštas, <i>London Metropolitan University</i></p> <p>A Survey of Peer-to-Peer Network Simulators S. Naicken, A. Basu, B. Livingston, S. Rodhetbhai, <i>University of Sussex</i></p>	
Lunch	
	12:30 – 13:30

SESSION 5A – Heterogeneous Networks (Session Chair – Dr. Saeed Mahfooz, University of Peshawar, Pakistan) <i>Main Lecture Theatre</i>	
<p>SIP-Based Multimedia Multicast Adaptive Transmission Mechanism in Next Generation Wireless Internet C. Balakrishna, K. Al-Begain, <i>University of Glamorgan</i></p> <p>Source Selection Algorithms for Routing in Integrated Cellular Networks Y. Wu, K. Yang, <i>University of Essex</i></p> <p>Meaning, Knowledge and Context in Ad-Hoc Computing Environments L. Hawizy, I. W. Phillips, J. H. Connolly, <i>Loughborough University</i></p> <p>Avoiding Unnecessary Congestion Responses in Layered Multicast with Heterogeneous Receivers C. Kulatunga, G. Fairhurst, <i>University of Aberdeen</i></p>	
SESSION 5B – Applications II (Session Chair – Dr. Adil Al-Yasiri, University of Salford) <i>Conference Room A</i>	
<p>An Architecture for Centralized SIP-based Audio Conferencing using Application Layer Multicast J. Simões, R. Costa, P. Nunes, R. Lopes, <i>Instituto Superior das Ciências do Trabalho e da Empresa (ISCTE), Portugal</i>; L. Mathy, <i>Lancaster University</i></p> <p>A WiFi Virtual Laboratory T. Sturgeon, A. Miller, C. Allison, <i>University of St Andrews</i></p> <p>Towards the Automated Engineering of Autonomic Systems P. Miseldine, M. Randles, D. Lamb, A. Taleb-Bendiab, <i>Liverpool John Moores University</i></p> <p>A GIS-CAN System for the Detection and Analysis of Vehicles Exhaust Pollution L. E. Cordova-Lopez, A. I. Al-Shamma'a, A. Shaw, J. D. Cullen, <i>Liverpool John Moores University</i>; A. Al-Yasiri, <i>University of Salford</i></p>	
SESSION 5C – Multimedia (Session Chair – Dr. Abdennour El Rhalibi, Liverpool John Moores University) <i>Conference Room B</i>	
<p>Spatially-Adaptive Non-Linear correction of Flicker using Greylevel Tracing G. Forbin, T. Vlachos, S. Tredwell, <i>University of Surrey</i></p> <p>A New Digital Colored Images Watermarking Technique Using Self Embedding A. S. N. Al-Nu'aimi, R. S. R. Qahwaji, <i>University of Bradford</i></p> <p>Real Time Mixed Reality in Virtual Environments T. Sturgeon, A. Miller, K. Getchell, C. Allison, <i>University of St Andrews</i></p> <p>Automatic System for Music Genre Classification J. Zheng, M. Oussalah, <i>University of Birmingham</i></p>	
Coffee Break	
CLOSING KEYNOTE SPEECH (Session Chair – Prof. Nigel Linge, University of Salford) <i>Main Lecture Theatre</i>	
<p>Dr. Mike Fisher, <i>BT Labs</i> “BT's 21st Century Network”</p>	
13:30 – 14:50	14:50 – 15:00
15:00 – 16:00	