

## Technical Program for WICON 2010

March 1-3, Singapore, Singapore,  
Holiday Inn Atrium

### Day 1: March 1, 2010

09:30 - 11:30	UBSN Workshop (5 papers) – Room Changi 2
11:30 – 12:00	Coffee break
12:00 – 13:00	Lunch
13:00 – 17:00	<b>Tutorial – Room Changi 2</b> <i>LTE and Femtocell: Standard, Technology and Business</i> by <i>Arief Hamdani Gunawan, Kuncoro Wastuwibowo, and Muhammad Ary Murti</i>
15.00-15.30	Coffee Break
15.30-17.00	<b>Tutorial Continued – Room Changi 2</b> <i>LTE and Femtocell: Standard, Technology and Business</i> by <i>Arief Hamdani Gunawan, Kuncoro Wastuwibow, and Muhammad Ary Murti</i>

### Day 2: March 2, 2010

09:00 - 09:30	Opening remarks and welcome – Room Changi 3	
09:30 - 10:30	Keynote speech: <i>Wireless Internet Services under Digital Convergence</i> <i>Prof. Yi-Bing Lin</i> , National Chiao Tung University, Taiwan	
10:30 – 11:00	Coffee break	
	<b>Room Changi 2</b>	<b>Room Changi 3</b>
11:00 – 12:15	NET01 (3 papers) Sessions Chair: Ping Wang	APP01 (3 papers) Sessions Chair: Naveen Chilamkurti
12:30 – 14:00	Lunch	
14:00 – 15:15	NET02 (3 papers) Sessions Chair: Danny Tsang	NET03 (3 papers) Sessions Chair: Jie Zhang
15:20 – 16:10	Coffee break	
16:10 – 17:50	NET04 (4 papers) Sessions Chair: Di Yuan	PHY01 (4 papers) Sessions Chair: Yongliang Guan
19:00 – 22:00	Banquet Dinner	

### Day 3: March 3, 2010

	<b>Room Kallang</b>	<b>Room Seletar 2</b>
09:00 – 10:40	NET05 (4 papers) Sessions Chair: Yutaka Takahashi	MAC01 (4 papers) Sessions Chair: Mingtuo Zhou
10:40 – 11:10	Coffee break	
11:10 – 12:50	NET06 (4 papers) Sessions Chair: Riku Jäntti	
13:00 – 14:00	Lunch	

## **Keynote Speech: *Wireless Internet Services under Digital Convergence***

### **Abstract:**

Today, same Internet services are already accessed using different terminals over various types of networks. Through digital convergence, we are able to integrate the separate worlds of audio, video, data and voice services. Specifically, the borders between fixed-line and wireless mobile networks are disappearing.

In this talk, we introduce the broadband network environment in Taiwan, and describe a Next Generation Network (NGN)/IP Multimedia Subsystem (IMS) deployed by Chunghwa Telecom. This NGN/IMS network is commercially operated to support over 800 thousands subscribers. Based on this NGN/IMS network, we show how wireless Internet services such as Multimedia on Demand (MOD), IMS Emergency Calls, Push-to-Talk over Cellular (PoC) can be developed under digital convergence.

### **Biography**



Prof. Yi-Bing Lin (Taiwan) is Dean and Chair professor of College of Computer Science, National Chiao Tung University (NCTU). He is a senior technical editor of IEEE Network. He serves on the editorial boards of IEEE Trans. on Vehicular Technology. He is General and Program Chairs for prestigious conferences including ACM MobiCom 2002. He is Guest Editor for several journals including IEEE Transactions on Computers and IEEE JSAC. Lin is the authors of three books Wireless and Mobile Network Architecture (Wiley, 2001), Wireless and Mobile All-IP Networks (John Wiley, 2005), and Charging for Mobile All-IP Telecommunications (Wiley, 2008). Lin received numerous research awards

including IBM Faculty Award, 2005 NSC Distinguished Researcher and 2006 Academic Award of Ministry of Education. Lin is an IEEE Fellow, ACM Fellow, an AAAS Fellow, and an IET Fellow.

**March 1, 2010**

**UBSN Workshop**

**A Multiple Sensor-based Shoe-mounted User Interface Designed for Navigation Systems for the Visually Impaired**

Jie ZHANG, Chon Wai LIP, Soh-Khim ONG, Andrew Yeh-Ching (National University of Singapore)

**Toward Clock Skew Based Wireless Sensor Node Services**

Md. Borhan Uddin (Polytechnic Institute of New York University) and Claude Castelluccia ( INRIA, Rhone-Alpes, France)

**A Novel Web-enabled Healthcare Solution on Health Vault System**

Lingxia Liao (University of British Columbia), Min Chen (Seoul National University), Son Vuong (University of British Columbia), Xiaorong Lai (Hebei Polytechnic University, China)

**Prediction-Based Data Transmission for Energy Conservation in Wireless Body Sensors**

Feng Xia, Zhenzhen Xu, Lin Yao, Weifeng Sun, and Mingchu Li (Dalian University of Technology, China)

**WAVE and CalFit - Towards Social Interaction in Mobile Body Sensor Networks**

Posu Yan, Irving Lin, Michael Roy, Edmund Seto, Curtis Wang, Ruzena Bajcsy (UC Berkeley EECS, USA)

**March 2, 2010**

## **NET01-Cognitive Radio Networks**

### **Joint Spectrum Allocation and Relay Selection in Cellular Cognitive Radio Networks (Invited)**

Ke Lang, Yuan Wu, and Danny H.K. Tsang (HKUST)

### **On the Impact of Primary User Localization on Rate Performance of CR systems (Invited)**

Nurul Mahmood, Geir Oien (NTNU), Maité Brandt-Pearce (University of Virginia)

### **Energy Minimization Approach for Optimal Cooperative Spectrum Sensing in Sensor-Aided Cognitive Radio Networks**

Hai Ngoc Pham (University of Oslo & Simula Research Laboratory), Yan Zhang (Simula Research Laboratory), Paal Engelstad (Simula Research Laboratory & Telenor R&I), Tor Skeie and Frank Eliassen (University of Oslo & Simula Research Laboratory)

## **APP01-Location and Context-Awareness**

### **A Concept for Context-aware Multihoming with Heterogeneous Radio Access Technologies**

Andreas Klein, Stefano, Christian Mannweiler, Joerg Schneider, Hans Schotten (University of Kaiserslautern)

### **Dilution of Precision for Mobile Location in Non-Line-of-Sight Environments**

Huang Yan, Wang Peng (Nanyang Technological University), Wan Qun (University of Electronic Science and Technology of China), Chiang Loh (Nanyang Technological University), Choo Hoong (Nanyang Technological University)

### **Distributed Management of Contextual Affinities in Context-Aware Systems**

Robert Schmohl and Uwe Baumgarten (Technische Universitaet München)

## **NET02-Wireless Multimedia and Content Distribution**

### **Voice Adaptive Gateway Pacer for Wireless Multihop Networks (Invited)**

Kyungtae Kim (NEC Laboratories America), Dragoş Niculescu (Politehnica University of Bucharest)

### **Broadcast Video Streaming in Cellular Networks: An Adaptation Framework for Channel, Video and AL-FEC Rates Allocation**

Daniele Munaretto, Dan Jurca, Joerg Widmer (DOCOMO Euro-Labs)

### **Optimized Content Caching and Request Capture in CNF Networks**

Lijun Dong, Dan Zhang, Yangyong Zhang, Dipankar Raychaudhuri (Winlab, Rutgers University)

## **NET03- Routing and Data Dissemination in Ad Hoc Networks**

### **On Infostation Density of Vehicular Networks (Invited)**

Vinod Kone (UCSB), Haitao Zheng (UCSB), Antony Rowstron (Microsoft Research Cambridge), and Ben Zhao (UCSB)

### **A Distance-Aware Forwarding Protocol for Beaconless Communication in Mobile Ad Hoc Networks and its Performance**

Yusuke Inoue (Kyoto University), Keiichi Endo (Ehime University), and Yutaka Takahashi (Kyoto University)

### **A Ferry Scheme for Geocast in MANETs**

Ting Wang and Chor Ping Low (Nanyang Technological University)

## **NET04-Mobility Management**

### **Connected Dominating Set Construction Using an Efficient Pruning Method in Ad hoc Networks**

Vahid Ghasemi, Seyed Naser Hashemi, and Mojtaba Mozaffari (Amirkabir University of Technology)

### **Countermeasures against MAC Address Spoofing in Public Wireless Networks using Lightweight Agents**

Cheng-Zen Yang, I-Hsuan Huang, Ko-Chen Chang, Yu-Chi Lu (Yuan Ze University)

### **Distributed Mobility Management Based on Flat Network Architecture**

Yu Liu, Zhao ZhiJun, Lin Tao, Tang Hui (Institute of Acoustics, Chinese Academy of Sciences)

### **Relay-Assisted MIMO Transmission with Three-Phase Scheduling in Cognitive Radio Networks**

Qingmin Meng, Sen Shao, Wenhui Zong (Nanjing University of Posts and Telecommunications), Wei-Ping Zhu (Concordia University)

## **PHY01-MIMO, OFDM, and Cooperative Communications**

### **Performance of an Adaptive PSO Partial Parallel Interference Canceller for CDMA Communication Systems**

Chia-Hsin Cheng (National Formosa University Yunlin County), Hsi-Chou Hsu (National Pingtung Institute of Commerce Pingtung City), Yung-Fa Huang (Chaoyang University of Technology), Jyh-Horng Wen (Tung Hai University), Ling-Cheng Hsu (Chaoyang University of Technology)

### **Limited feedback scheme based on Zero-forcing Precoding for Multiuser MIMO-OFDM Downlink Systems**

Chen Zhiyong (Intel China Research Center), Wenbo Wang, Mugen Peng (Beijing University of Posts & Telecommunications), and Fengming Cao (Toshiba Research Europe Ltd)

### **An Effective Hybrid GACSA -based Multi-user Detection for Ultra-WideBand Communications Systems**

Jyh-Horng Wen, (Junghai University), Ho-Lung Hung, Chien-Chi Chao (Chienkuo Technology University), Chia-Hsin Cheng (National Formosa University)

### **Distribution of Peak-to-Average Power Ratio and Its Applications in OFDM Systems with Unequal Power Allocation**

Tao Jiang, Daiming Qu (Huazhong University of Science and Technology), Peng Gao (China Mobile Group Design Institute Co., Ltd)

**March 3, 2010**

### **NET05- Wireless Sensor Networks**

#### **GA-MIP: Genetic Algorithm based Multiple Mobile Agents Itinerary Planning in Wireless Sensor Networks (Invited)**

Wei Cai (Seoul National University), Min Chen (Seoul National University), Takahiro Hara (Osaka University, Japan), Lei Shu (Osaka University)

#### **TRCCIT: Tunable Reliability with Congestion Control for Information Transport in Wireless Sensor Networks**

Faisal Shaikh, Abdelmajid Khelil, Azad Ali, and Neeraj Suri (TU Darmstadt)

#### **Joint Energy and Route Optimization in MIMO Wireless Sensor Networks**

Rong Yu (South China University of Technology), Yan Zhang (Simula Research Laboratory), Lingyang Song (Peking University), Wenqing Yao (South China University of Technology)

#### **Traffic Load Distribution in Large-Scale and Dense Wireless Sensor Networks**

Qinghua Wang and Tingting Zhang (Mid Sweden University)

### **MAC01-Radio Resource Management**

#### **Beyond Conventional Fractional Frequency Reuse for Networks with Irregular Cell Layout: An Optimization Approach and Performance Evaluation**

Di Yuan and Lei Chen (Linkoping University)

#### **Energy-Efficient Resource Allocation in Cooperative OFDMA Systems**

Tolga Girici and Fatma Sokmen (TOBB University of Economics and Technology)

#### **Resource Allocation and Reuse for Inter-Cell Interference Mitigation in OFDMA based Communication Networks**

Zheng Xie and Bernhard Walke (RWTH Aachen University)

#### **An Enhanced Bridged-Based Multi-hop Wireless Network Implementation**

Stefano Maurina, John Fitzpatrick, Laurentiu Trifan, and Liam Murphy (University College Dublin)

### **NET06-Scheduling and Queue Management in Wireless Multi-Hop Networks**

#### **Joint Power Control and Scheduling Algorithm for Wi-Fi Ad-hoc Networks**

Sangho Oh (Rutgers University), Marco Gruteser (Rutgers University), Daniel Jiang (Mercedes-Benz Research & Development North America), Qi Chen (Mercedes-Benz Research & Development North America)

#### **Energy-Adaptive Scheduling and Queue Management in Wireless LAN Mesh Networks**

Riku Jäntti (Helsinki University of Technology), Harri Paloheimo (Nokia), Johanna Nieminen (Nokia)

#### **Location Optimization for Decode-and-forward Opportunistic Cooperative Networks**

Changqing Yang, Wenbo Wang, Shuang Zhao, Mugen Peng (Beijing University of Posts & Telecommunications)

#### **Enhanced Active Queue Management for Multi-Hop Networks**

Naveen Chilamkurti (LaTrobe University)