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**CHINACOM 2006 First Call For Papers**



The aim of CHINACOM is to bring together Chinese and International players in networking and communications under one roof, building a showcase in communications and networking research in China.

China's information technology industry and research have been developing at an enormous pace in the last 20 years. Currently China has the largest wireless mobile and the second largest Internet subscriber population in the world. By the end of 2005, the mobile phone users have reached 388 million (19% of the world market), and the number will be over 500 million by 2008 and over 150 million will be multimedia applications. Internet users have exceeded 100 million (half of them are broadband service subscribers). The total sale of optical cables & fibers reached 15 million kilometers in 2004, with the sale of the whole optical communication facility market reaching 1.5 billion USD. Furthermore, business/market factors in this area in China are unique since they are Government driven and mixed with culture, technology, and market forces.

CHINACOM is being positioned as the premier international annual conference for the presentation of original and fundamental research advances in the field of Communications, Networks, and Internet Applications. The conference will consist of Technical Symposia, and Workshops. The Technical Symposia will describe significant research in all areas defined below; while the Workshops will focus on development, applications and related business issues.

**PAPERS:** The conference invites original technical papers that were not previously published and are not currently under review for publication elsewhere. Topics include, but are not limited to:

**Frontiers on Communications and Networking**

- Bio-inspired networks
- Nano-Networks
- Future internet architecture design
- Linear network coding
- Cooperation diversity and cooperative coding
- Autonomic communications/networking principles
- Multimedia broadband networking for smart homes
- Theory and algorithms of networking such as routing, congestion control, traffic engineering, peer-to-peer/overlay and security

- Power-line communications
- Detection and iterative processing techniques
- Theoretical foundations for network autonomies
- Tools and techniques for designing, analyzing and building autonomic networks and systems
- Adaptive security and safety mechanisms for self-protection and self-healing
- Applications and services such as location-based services, VoIP, IPTV, content services, L2/L3VPNs, Cognitive communications and networking

**Optical Communications and Networking**

- Routing and wavelength assignment
- ASON/GMPLS control plane
- Traffic grooming and traffic engineering
- Multicasting in optical networks
- Optical Packet /Burst Switching (OPS/OBS)
- Optical network protection and restoration
- Optical switches architecture and performance
- Optical grid
- Passive optical networks (A/B/G/EPONs)
- Optical network test beds and field trials
- Hybrid wireless-optical metro/access networks
- Signaling and monitoring in optical networks

- Ultra-high-speed transmission systems (>40 Gb/s)
- Modulation formats and coding
- Signal processing and forward error correction
- DWDM and CWDM transceivers and Transponders
- Optical regeneration (including all-optical)
- Fixed and reconfigurable OADMs
- Chromatic dispersion and PMD compensation
- Optical systems design and simulation
- OE and passive devices' applications
- Optical Ethernet and new service paradigms
- Impact of the physical-layer impairments on optical network design and traffic engineering

**Wireless Communications and Networking**

- PCS, GPRS, EDGE, 3GPP, UMTS, IMT2000
- CDMA, TDMA, OFDM, air interfaces
- Handoff protocols & management
- Smart Antennas, cell & capacity planning
- Wireless LANs, mobile Internet
- Network topology control
- Flow & congestion control
- TCP over wireless
- Wireless multicasting
- Chaotic broadband (wireless) communications

- B3G/4G mobile network architectures
- Wireless multimedia
- Multiple and wireless access techniques
- Wireless switching and routing techniques
- Ultra-wideband (UWB) and Cognitive Radio
- Resource allocation and interference management
- Propagation and channel characterization
- MIMO techniques, Space-time coding
- Sensor and Ad hoc wireless networks
- WiMAX and beyond WiFi

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Jun Zheng

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### Wireless Communications and Networking

Andreas F. Molisch

MERL, USA /Lund Univ. Sweden

Sherman Shen

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Kazem Sohraby

University of Arkansas, USA

### Advances in Internet

Hai Jin

HUST, China

Qian Zhang

HKUST, Hong Kong, China

### Communications Theory and Signal Processing for Communications

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Jing Tiffany Li

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## Advances in Internet

Provisioning and management of IP services

Distributed Internet applications

Novel applications and new paradigms

Handling Internet dynamics/heterogeneity

Traffic measurement, analysis, modeling

China Next Generation Internet (CNGI)

Multimedia and Internet application

Pervasive/GRID computing

Platforms for rapid creation and deployment of network services

Design methodologies for Internet services

Emergency services

Services enabling protocols and extensions

Peer-to-Peer applications and technologies

leveraging/supporting peer-to-peer applications

Middleware for new Internet based applications

Converged networks and applications (including

VoIP and 3G/NGN telecom networks)

Applications leveraging content networking technologies

delivering applications on the Internet

Services over the wireless Internet

Security and privacy management in hosted Internet applications

## Communication Theory and Signal Processing for Communications

Adaptive Antennas

Adaptive Modulation and coded modulation

Broadcast channels

Channel estimation and modeling

Communications electronics

Channel Capacities

Equalization

Error Control Coding and ARQ

Interference mitigation and signal separation

Multiple access channels

Multiuser systems and multiuser detection

Network coding

Receiver techniques

Source coding and joint source-channel coding

Space-Time codes and MIMO

Speech and video signal processing

Synchronization

Signal processing algorithms

Signal processing for UWB

OFDM and multicarrier systems

Image processing for communications

Relay channels and user cooperation

Signal processing for data storage

Signal processing in wireless communications

Speech and video signal processing

Signal processing for multimedia

## Networking Security and Information Assurance

Power-reliability-security trade-offs in wireless networks

Cross-layer approaches to security

Mobile network security

Location aware security in mobile networks

Throughput-Security trade-offs in wireless networks

Secure group multimedia communications

Secure PHY/MAC/routing protocols

Distributed security systems

Secure cooperation in wireless networks

Jamming and counter measures

Attacks on security and vulnerability analysis

Application layer encryption

Digital watermarking and biometrics for secure information access

Capacity and security analysis of covert channels

Security Engineering

Security in large-scale environments

Security protocols

Security of ad-hoc/sensor networks

**WORKSHOPS:** Proposals for workshops are solicited. Potential chairs are requested to submit a workshop proposal of at most 5 pages, including a biographical sketch of each chair, to one of the Workshop Chairs by June 6<sup>th</sup>, 2006. Evaluation of workshop proposals will be based on the relevance of the subject matter, and the expertise and experience of the chair.

**SUBMISSION INSTRUCTIONS:** Conference language is English. Prospective authors are encouraged to submit a PDF version of the full paper in IEEE conference proceedings format, which are limited to 5 two-column pages in a font no smaller than 10-points. All paper submissions will be handled electronically. Please visit the conference website <http://www.chinacom.org> for detailed submission requirements and procedures.

**PUBLICATION:** All submitted papers will go through a peer review process. All accepted papers will be included in the CHINACOM 2006 Conference Proceedings. All accepted papers will be made available in *IEEE Xplore* and *Association for Computing Machinery (ACM) Digital Library* and then be indexed by *Engineering Information (EI)*. Accepted papers will also be recommended for a special issue of a top journal.

## IMPORTANT DATES

Paper Submission Due	<b>May 1<sup>st</sup>, 2006 (Monday)</b>
Notification of Acceptance	<b>June 30<sup>th</sup>, 2006 (Friday)</b>
Camera Ready Versions Due	<b>July 31<sup>st</sup>, 2006 (Monday)</b>
Conference Dates	<b>October, 16-19, 2006</b>

## TECHNICAL SPONSORSHIPS (pending)



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