Dandan Wang

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Highlights

- Strong theoretical and practical background in wireless communications in general, CDMA and OFDM in particular
- Expertise in algorithm design and performance analysis related to wireless PHY and MAC layers
- Skillful in the programming and simulation tools
- Experienced in C/C++, COSSAP, MATLAB, Assembly Language, and LabVIEW
- Motivated, creative, responsible, and self-motivated

Education

University of Texas at Dallas (UTD) Richardson, Tx, US
PhD candidate in Electrical Engineering In progress
Thesis: Cross layer design of wireless networks (tentative)
Thesis Supervisor: Prof. Naofal Al-Dhahir, Prof. Hlaing Minn

Beijing University of Posts & Telecommunications (BUPT) Beijing, China
Master of Engineering in Electrical Engineering, April 2003
Thesis: Transceiver design in MIMO LAS-CDMA systems
Thesis Supervisors: Prof. Daoben Li
Bachelor of Engineering in Electrical Engineering, July 2000
Thesis: Channel estimation in LAS-CDMA systems
Thesis Supervisors: Prof. Daoben Li

Working Experience

Ericsson (China) Company Ltd, Beijing, China
Research Engineer, China Radio Research Lab Aug, 2003-Aug, 2004

- Investigated a new soft handover scheme for WCDMA system design together with DRND department, Ericsson AB and improved the fairness of a soft handover link and the link of a new user
- Optimized the parameters of admission control algorithm by changing the admission threshold of carrier power and power consumption estimation of a new link optimization
- Performed speech capacity evaluation of WCDMA system with admission control and congestion control under different cell sizes under the simulation platform developed by Ericsson Research

LinkAir Communications, Inc., Beijing, China
System Design Engineer Aug, 2001 – Aug, 2003

- Implemented key modules in the development of LAS-CDMA PHY simulation platform as channel coding, rake receiver, modulation and filter on COSSAP
- Conducted performance comparison with WCDMA and CDMA2000 on COSSAP
- Designed and analyzed channel estimation in space-time transceiver systems based on spreading codes of LAS-CDMA
- Proposed a novel efficient MUD equalizer for LAS-CDMA
- Investigated Multiple Input Multiple Output (MIMO) scheme combined with LAS-CDMA
- Implemented the fixed point simulation of the new MUD algorithm on COSSAP

Research Experience

University of Texas at Dallas, Richardson, Tx Aug, 2005-present

- Designed a distributed opportunistic access scheme for OFDMA systems

- Investigated the lattice aided receiver for MIMO systems and OFDM systems
- Designed coherent receiver for diversity embedded space time coding for uplink synchronous and asynchronous systems

Stevens Institute of Technology, Hoboken, NJ Sep, 2004-Aug, 2005

- Designed a new MAC protocol combined with MIMO-OFDM and space-time coding
- Proposed a fair pricing strategy to improve the performance of a slotted Aloha system using game theoretic framework.
- Cross layer design of localization and MAC for sensor networks

Teaching Experience (Best TA)

Stevens Institute of Technology, Hoboken, NJ Sep, 2004-Aug, 2005

- Designed demo for course 'Digital Signal Processing' and 'Circuit and System' using LabVIEW.
- Lectured, graded assignments and supervised laboratory sessions in "Circuits and Systems'.
- Supervised senior design project "Distributed Frequency Access and Networking Test bed".

Publications

Journals

- **D. Wang**, C. Comaniciu and U. Tureli, "Cooperation and Fairness for Slotted Aloha", to appear in Special Issue on Cooperation in Wireless Networks, Springer – Wireless Personal Communication.
- **D. Wang** and U. Tureli, "Joint MIMO-OFDM and MAC design for broadband ad hoc networks", to appear in European Applied Signal Processing (EURASIP) Journal in Wireless Communications and Networking, Special issue in Cooperation in Networks.

Conferences

- **D. Wang**, H. Minn, and N. Al-Dhahir, "A Distributed Opportunistic Access Scheme for OFDMA Systems", IEEE Global Communications Conferences (Globecom'06), November 2006
- **D. Wang,** C. Comaniciu and U. Tureli, "A fair and efficient pricing strategy for slotted Aloha in MPR models", IEEE VTC, September 2006.
- **D. Wang**, C. Comaniciu and U. Tureli , "Cross Layer Design for Localization and MAC", 40th Conference on Information Systems and Sciences(CISS), Princeton University, March 2006
- **D. Wang** and U. Tureli, "Cooperative MIMO-OFDM and MAC design for broadband ad hoc network", 2005 IEEE Military Communications Conference (MILCOM'05), October 2005.
- **D. Wang** and U. Tureli, "Cross layer design for broadband ad hoc network with MIMO OFDM", 2005 IEEE 6th Workshop on Signal Processing Advances in Wireless Communications (SPAWC), Page(s):630 – 634, June 2005.
- **D. Wang** and U. Tureli, "Cooperative transceiver architecture and MAC scheme for broadband ad hoc network," 39th Annual Conference on Information Systems and Sciences (CISS'05), 159:163, March 2005.
- Gang Wang, **Dandan Wang**, Daoben Li, "An Efficient ZF-SIC Detection Algorithm in MIMO CDMA System", IEEE International Symposium on Personal Indoor and Mobile Radio Communications (PIMRC), 2003

Patents

- "A receiver of MIMO CDMA in multipath fading scenario", PCT/CN02/00368

- "A novel transmission method using MIMO system in wireless communication", PCT/CN02/00381
- "A novel high data rate transmission method for CDMA systems", PCT/VN02/00367
- "A novel receiver for MIMO CDMA systems" PCT/CN02/00377

Awards

Stevens Institute of Technology Hoboken, NJ
Outstanding Teaching Assistant May, 2005
Outstanding Student of Beijing 1997
Awarded to top 10 students of the whole university who are excellent both in studies and organization of activities
Beijing University of Posts & Telecommunications Beijing, China
Xintai Scholarship 2001
- Awarded to the top 2 students in Information Engineering(IE) department

Outstanding undergraduate June, 2000
- Awarded to the top 3 undergraduates in each department

Special Scholarship of School of Information Engineering 2000
- Awarded to top 3 senior students in IE department

TongGang Scholarship
- Awarded to top 3 students in each department 1999

EastCom Scholarship 1998
- Awarded to No.1 student in each department

Ericsson Scholarship 1997
- Awarded to top 5 students in each department

Excellent student award 1997-2000
- Awarded to 10 students who are recognized for their excellent academic performance in each department

Excellent student leader award 1997--2000
- Awarded to 10 student leaders who are recognized for their excellent service to student organizations in each department

Services & activities

Technical reviews for IEEE Globecom, WCNC, VTC, TWC

Languages

- Chinese/Mandarin (Native)
- English (Fluent)

References

Upon Request