CT14.5   Exploiting Asynchrony in DS-CDMA Systems Through Interference Avoidance
Brandon Hombs, BAE Systems E&IS, USA, James S. Lehnert, Purdue University, USA

CT15   Space-Time Codes
Thursday, 1 December 2005 • 2:00–3:45PM
Room: Landmark 7/Level One/Renaissance Grand Hotel
Session Chair: **Hamid Jafarkhani**, University of California, Irvine, USA

CT15.1   Signal Design for Trellis-Coded Unitary Space–Time Modulation
Yi Wu, Agder University College, Norway, Vincent Lau, Hong Kong University of Science and Technology, Hong Kong, Matthias Pätzold, Agder University College, Norway
CT15.2   Space–Time Coded Systems with Continuous Phase Frequency Shift Keying
Rachel L. Maw and Desmond P. Taylor, University of Canterbury, New Zealand
CT15.3   High-Rate Full-Diversity Space–Time-Frequency Codes for MIMO Multipath Block-Fading Channels
Wei Zhang, The Chinese University of Hong Kong, China, Xiang-Gen Xia, University of Delaware, USA, P. C. Ching, The Chinese University of Hong Kong, China
CT15.4   Distributed Space–Time Block Coding
Simon Yiu, R. Schober and L. Lampe, The University of British Columbia, Canada

CT16   Receiver Design
Thursday, 1 December 2005 • 4:00–5:45PM
Room: Landmark 6/Level One/Renaissance Grand Hotel
Session Chair: **Marvin Simon**, California Institute of Technology, USA

CT16.1   Improving SNR Estimation for Autonomous Radio Receivers
Marvin Simon and Sam Dolinar, California Institute of Technology, USA
CT16.2   Single Antenna Interference Cancellation Using a List-Sequential (LISS) Algorithm
Christian Kuhn Joachim Hagenauer, Munich University of Technology, Germany
CT16.3   A Reduced-Complexity Approach to Iterative Detection of Coded MIL-STD SOQPSK
Erik Perrins, University of Kansas, USA, Michael Rice, Brigham Young University, USA
CT16.4   Equalization Algorithms in the Frequency Domain for Continuous Phase Modulations
Fabrizio Pancaldi and Giorgio M. Vitetta, University of Modena and Reggio Emilia, Italy
CT16.5   Joint Timing Recovery, ISI Equalization and Decoding Using Per-Survivor BCJR-DFE
Nitin Nangare and Krishna R. Narayanan, Texas A&M University, USA
Xueshi Yang and Erozan Kurtas, Seagate Technology, USA

CT17   Differential Space-Time Codes
Thursday, 1 December 2005 • 4:00–5:45PM
Room: Landmark 7/Level One/Renaissance Grand Hotel
Session Chair: **Desmond Taylor,** University of Cantebury, New Zealand

CT17.1   Recursive Space–Time Trellis Codes Using Differential Encoding
Shengli Fu, Xiang-Gen Xia and Haiquan Wang, University of Delaware, USA
CT17.2   Multiple-Symbol Differential Sphere Decoding for Unitary Space–Time Modulation
Volker Pauli, Universität Erlangen–Nürnberg, Germany, Lutz Lampe, University of British Columbia, Canada

CT17.3   Bit Error Probability for Orthogonal Space–Time Block Codes with Differential Detection
Thian Ping Soh, Pooi Yuen Kam and Chun Sum Ng, National University of Singapore, Singapore
CT17.4   A Low-Complexity Differential Space–Time Transmission Scheme for Large Numbers of Receive Antennas
Xinying Yu and Brian L. Hughes, North Carolina State University, USA
CT17.5   Generalized Quadratic Receivers for Unitary Space–Time Constellations with Orthogonal Design over Rayleigh Fading Channels
Rong Li, and Pooi Yuen Kam, National University of Singapore, Singapore

Computer and Network Security Symposium

Chair: Mohsen Guizani, Western Michigan University, USA
Vice Chair: Hsiao-Hwa Chen, National Sun Yat-Sen University, Taiwan

CN01   Computer & Network Security I
Tuesday, 29 November 2005 • 10:30AM–12:15PM
Room: Parkview/Aubert/Mezznine Level/Renaissance Grand Hotel
Session Chair: **Bo Sun**, Lamar University, USA

CN01.1   On Quantum Authentication Protocols
Yoshito Kanamori, Seong-Moo Yoo and Don A. Gregory, The University of Alabama in Huntsville, USA, Frederick T. Sheldon, Oak Ridge National Laboratory, USA
CN01.2   Vulnerabilities and Security Enhancements for the IEEE 802.11 WLANs
Yang Xiao, University of Memphis, USA, Chaitanya Bandela and Yi Pan, Georgia State University, USA
CN01.3   Optimal Stream-based Cipher Feedback Mode in Error Channel
Yang Xiao, The University of Memphis, USA, Mohsen Guizani, Western Michigan University, USA
CN01.4   Securing Internal Wi-Fi Networks with Position Verification
Robert A. Malaney, University of New South Wales, Australia
CN01.5   Staggered TESLA: A Multicast Authentication Scheme Resistant to DoS Attacks
Qing Li and Wade Trappe, Rutgers University, USA

CN02   Computer & Network Security II
Tuesday, 29 November 2005 • 2:00–3:45PM
Room: Parkview/Aubert/Mezzanine Level/Renaissance Grand Hotel
Session Chair: **Nirwan Ansari**, New Jersey Institute of Technology, USA

CN02.1   Enhanced Probabilistic Packet Marking for IP Traceback
Zhiqiang Gao and Nirwan Ansari, New Jersey Institute of Technology, USA
CN02.2   Multiple-key Cryptography-based Distributed Certificate Authority in Mobile Ad hoc Networks
Hongbo Zhou, Slippery Rock University, USA
Matt W. Mutka, Michigan State University, USA
Lionel M. Ni, Hong Kong University of Science & Technology, Hong Kong
CN02.3   Multi-Pattern Signature Matching for Hardware Network Intrusion Detection Systems
Haoyu Song and John W. Lockwood, Washington University in St. Louis, USA
CN02.4   A Novel Hierarchical Matching Algorithm for Intrusion Detection Systems
Tzu-Fang Sheu, Nen-Fu Huang and Hsiao-Ping Lee, National Tsing-Hua Universuty, Taiwan

CN02.5   Trustworthiness in Wireless Sensor and Actuator Networks: Towards Low-Complexity Reliability and Security
Fei Hu and Xiaojun Cao, Rochester Institute of Technology, USA
Sunil Kumar, Clarkson University, USA, Krishna Sankar, CISCO System Inc., USA

CN03   Computer & Network Security III
Wednesday, 30 November 2005 • 10:30AM–12:15PM
Room: Parkview/Aubert/Mezzanine Level/Renaissance Grand Hotel
Session Chair: **Bo Sun**, Lamar University, USA

CN03.1   Mark-aided Distributed Filtering by Using Neural Network for DDoS Defense
Yang Xiang and Wanlei Zhou, Deakin University, Australia
CN03.2   A Self-Encryption Authentication Protocol with Identity Anonymity for Teleconference Services
Yixin Jiang and Chuang Lin, Tsinghua University, PR China
Minghui Shi and Xuemin Shen, University of Waterloo, Canada
CN03.3   RequIn—A Tool for Fast Web Traffic Inference
Olivier Paul and Jean Etienne Kiba, GET/INT, France
CN03.4   Minimization of Rekeying Cost for Contributory Group Communications
Wei Yu and Yan Sun, University of Rhode Island, USA
K. J. Ray Liu, University of Maryland, USA
CN03.5   A Mobility Model for GPS-based Encryption
Ala Al-Fuqaha, Omar Al-Ibrahim abd Joe Baird, Western Michigan University, USA

CN04   Computer & Network Security Session
Wednesday, 30 November 2005 • 2:00–5:00PM
Room: Majestic C/Level Two/Renaissance Grand Hotel
Session Chair: NA

CN04.1   A Key Management Scheme in Distributed Sensor Networks Using Attack Probabilities
Siu-Ping Chan, Radha Poovendran and Ming-Ting Sun, University of Washington, USA
On the Design of a Cost Effective Network Security Switch Architecture
Nen-Fu Huang, Broadweb Corp., Taiwan; National Tsing Hua University, Taiwan, Chih-Hao Chen, National Tsing Hua University, Taiwan, Rong-Tai Liu, Broadweb Corp., Taiwan, Chia-Nan Kao and Chih-Chiang Wu, National Tsing Hua University, Taiwan
CN04.3   Defense Against Injecting Traffic Attacks in Cooperative Ad hoc Networks
Wei Yu and K. J. Ray Liu, University of Maryland, USA
CN04.4   Anti-Attack Cooperation Stimulation in Self-Organized Ad hoc Networks
Wei Yu and K. J. Ray Liu, University of Maryland, USA
CN04.5   An Experimental Study of Cross-Layer Security Protocols in Public Access Wireless Networks
Avesh K. Agarwal and Wenye Wang, North Carolina State University, USA
Janise Y. McNair, University of Florida, USA
CN04.6   On the Impact of Security on Latency in WLAN 802.11b
Hanane Fathi, Aalborg University, Denmark, Kazukuni Kobara, The University of Tokyo, Japan, Shyam S. Chakraborty, Academy of Finland and Helsinki University of Technology, Finland, Hideki Imai, The University of Tokyo, Japan, Ramjee Prasad, Aalborg University, Denmark
CN04.7   On Defending Peer-to-Peer System-based Active Worm Attacks
Wei Yu, Texas A&M University, USA, Sriram Chellappan, Xun Wang and Dong Xuan, The Ohio State University, USA

CN05   Computer & Network Security IV
Wednesday, 30 November 2005 • 2:00–3:45PM
Room: Parkview/Aubert/Mezzanine Level/Renaissance Grand Hotel
Session Chair: **Pei Cao**, Standford University, USA

CN05.1   On the Average Pairwise Connectivity of Wireless Multihop Networks
Fangting Sun and Mark Shayman, University of Maryland, USA
CN05.2   Hash-AV: Fast Virus Signature Scanning by Cache-Resident Filters
Ozgun Erdogan and Pei Cao, Stanford University, USA
CN05.3   Secure Message Delivery in Publish/Subscribe Networks
Paul RabiNovemberich and Robert Simon, George Mason University, USA
CN05.4   Importance-Scanning Worm Using Vulnerable-Host Distribution
Zesheng Chen and Chuanyi Ji, Georgia Institute of Technology, USA
CN05.5   ID Mapping Attacks in P2P Networks
Davide Cerri and Alessandro Ghioni, Politecnico di Milano, Italy, Stefano Paraboschi, Università degli Studi di Bergamo, Italy, Simone Tiraboschi, Politecnico di Milano, Italy

CN06   Computer & Network Security V
Thursday, 1 December 2005 • 10:30AM–12:15PM
Room: Parkview/Aubert/Mezzanine Level/Renaissance Grand Hotel
Session Chair: **Lin Cai**, University of Victoria, Canada

CN06.1   A Pattern Matching Coprocessor for Deep and Large Signature Set in Network Security System
Chih-Chiang Wu, National Sung-Hua Wen, Nen-Fu Huang and Chia-Nan Kao, National Tsing Hua University, ROC
CN06.2   Security Services and Enhancements in the IEEE 802.15.4 Wireless Sensor Networks
Yang Xiao and Sakshi Sethi, University of Memphis, USA
Hsiao-Hwa Chen, National Sun Yat-Sen University, Taiwan
Bo Sun, Lamar University, USA
CN06.3   Anonymity Analysis of Mix Networks against Flow-Correlation Attacks
Ye Zhu, Xinwen Fu, Riccardo Bettati, and Wei Zhao, Texas A&M University, USA
CN06.4   Vulnerability Analysis of IP Traceback Schemes
Lin Cai, University of Victoria, Canada
Jianping Pan, University of Victoria, Canada
Sherman X. Shen, University of Waterloo, Canada
CN06.5   Multi-packet Signature Detection using Prefix Bloom Filters
N. Sertac Artan and H. Jonathan Chao, Polytechnic University, USA

CN07   Computer & Network Security VI
Thursday, 1 December 2005 • 2:00–3:45PM
Room: Parkview/Aubert/Mezzanine Level/Renaissance Grand Hotel
Session Chair: **Xi Zhang**, Texas A&M University, USA

CN07.1   Single Packet IP Traceback in AS-Level Partial Deployment Scenario
Chao Gong, Trinh Le and Turgay Korkmaz, University of Texas at San Antonio, USA, Kamil Sarac, University of Texas at Dallas, USA
CN07.2   Analysis of Virus and Anti-Virus Spreading Dynamics
Xi Zhang, Texas A&M University, USA, Debanjan Saha, IBM T.J. Watson Research Center, USA, Hsiao-Hwa Chen, National Sun Yat-Sen University, Taiwan
CN07.3   A Security Protocol for Sensor Networks
Khadija Stewart, Themistoklis Haniotakis and Spyros Tragoudas, Southern Illinois University, USA
CN07.4   Physical Layer Built-in Security Enhancement of DS-CDMA Systems Using Secure Block Interleaving
Qi Ling, Tongtong Li and Jian Ren, Michigan State University, USA

CN07.5   Defending against Packet Injection Attacks in Unreliable Ad hoc Networks
Qijun Gu, Texas State University, USA, Peng Liu, Sencun Zhu and Chao-Hsien Chu, Pennsylvania State University, USA

CN08   Computer & Network Security VII
Thursday, 1 December 2005 • 2:00–3:45PM
Room: Complex 225/Level Two/America's Center
Session Chair: **Yang Xiao**, University of Memphis, USA

CN08.1   Space–Time Encoding Scheme for DDoS Attack Traceback
M. Muthuprasanna and G. Manimaran, Iowa State University, USA
CN08.2   End-to-End Pairwise Key Establishment using Multi-path in Wireless Sensor Network
Hui Ling and Taieb Znati, University of Pittsburgh, USA
CN08.3   Analysis and Design of Distributed Hierarchical Access Control for Multimedia Networks
Ruidong Li and Jie Li, University of Tsukuba, Japan
Hsiao-Hwa Chen, National Sun Yat-Sen University, Taiwan
CN08.4   An Agent-based Trust and Reputation Management Scheme for Wireless Sensor Networks
Azzedine Boukerche and Xu Li, University of Ottawa, Canada
CN08.5   Trust Modeling and Evaluation in Ad hoc Networks
Yan Sun, University of Rhode Island, USA
Wei Yu, Zhu Han and K. J. Ray Liu, University of Maryland, USA

Photonic Technologies for Communication Symposium

Chair: Ioannis Tomkos, Athens Infomation Technology Center, Greece
Vice Chair: Jason Jue, University of Texas at Dallas, USA

PT01   Survivability & Reliability I
Tuesday, 29 November 2005 • 10:30AM–12:15PM
Room: Portland/Benton/Mezzanine Level/Renaissance Grand Hotel
Session Chair: **Arun K. Somani**, Iowa State University, USA

PT01.1   A p-cycle -based Survivable Design for Dynamic Traffic in WDM Networks
Wensheng He, Jing Fang and Arun K. Somani, Iowa State University, USA
PT01.2   Survivable Waveband Switching in WDM Mesh Networks under Dedicated Path Protection
Mengke Li, and Byrav Ramamurthy, University of Nebraska-Lincoln, USA
PT01.3   A Disjoint Path Selection Scheme Based on Enhanced Shared Risk Link Group Management for Multi-reliability Service
Takashi Miyamura, Takashi Kurimoto, Akira Misawa and Shigeo Urushidani, NTT Corporation, USA
PT01.4   Logical Topology Augmentation for Survivable Mapping in IP-over-WDM Networks
Chang Liu and Lu Ruan, Iowa State University, USA
PT01.5   Reliability and Recovery Time Differentiated Routing in WDM Optical Networks
Peng Ma, NUS, Singapore, Luying Zhou, Institute for Infocomm Research, Singapore, Gurusamy Mohan, NUS, Singapore

PT02   Survivability & Reliability II
Tuesday, 29 November 2005 • 2:00–3:45PM
Room: Portland/Benton/Mezzanine Level/Renaissance Grand Hotel
Session Chair: **Byrav Ramamurthy**, University of Nebraska-Lincoln, USA

PT02.1   Failure-Aware Idle Protection Capacity Reuse
A. Giorgetti, N. Andriolli, L. Valcarenghi and P. Castoldi, Scuola Superiore Sant'Anna di Studi Universitari e di Perfezionamento, Italy

PT02.2   On Survivable Service Provisioning in WDM Optical Networks under a Scheduled Traffic Model
Tianjian Li, Bin Wang and Chunsheng Xin, Wright State University, USA
Xinhui Zhang, Norfolk State University, USA
PT02.3   Two-Layer Parallel Switching: A Practical and Survivable Design for Performance Guaranteed Optical Packet Switches
Bin Wu, Kwan L. Yeung and Victor O. K. Li, The University of Hong Kong, Hong Kong
PT02.4   Efficient Path Protection using Bi-directional WDM Transmission Technology
Ji Li and Kwan L. Yeung, The University of Hong Kong, PR China
PT02.5   A Heuristic with Bounded Guarantee to Compute Diverse Paths under Shared Protection in WDM Mesh Networks
Ajay Todimala and Byrav Ramamurthy, University of Nebraska-Lincoln, USA

PT03   Access & CDMA T13
Tuesday, 29 November 2005 • 2:00–3:45PM
Room: Complex 225/Level Two/America's Center
Session Chair: **Ioannis Tomkos**, Athens Information Technology Center, Greece

PT03.1   Statistical Bandwidth Multiplexing in Ethernet Passive Optical Networks
Xiaofeng Bai, Abdallah Shami and Chadi M. Assi
PT03.2   An Urgency Fair Queuing Scheduling to Support Differentiated Services in EPONs
Yongqing Zhu, Maode Ma and Tee Hiang Cheng, Nanyang Technological University, Singapore
PT03.3   Design and Analysis of Coordinated Access Schemes for Code-Limited Optical-CDMA Networks
Fei Xue, S. J. Ben Yoo and Zhi Ding, University of California, Davis, USA
PT03.4   Optical S-ALOHA/CDMA System for Multirate Applications: System Architecture and Performance Evaluation
Robert Raad and Elie Inaty, University of Balamand, Lebanon, Paul Fortier, Laval University, Canada, Hossam M. H. Shalaby, University of Alexanderia, Egypt
PT03.5   A Greedy Algorithm for Deriving Optical Orthogonal Codes using Rejected Delays Reuse
Tamer Khattab and Hussein Alnuweiri, University of British Columbia, Canada

PT04   Multicasting & Light Trails
Tuesday, 29 November 2005 • 4:00–5:45PM
Room: Complex 225/Level Two/America's Center
Session Chair: **Guoliang Xue**, Arizona State University, USA

PT04.1   Bidirectional Light-Trails for Synchronous Communications in WDM Networks
Dzmitry Kliazovich, and Fabrizio Granelli, University of Trento, Italy
Hagen Woesner and Imrich Chlamtac, Create-Net, Italy
PT04.2   On Topology-Independent IP Group Aggregation in Multicast Capable Optical Networks
Yi Zhu, Yaohui Jin, Weiqiang Sun, Wei Guo and Weisheng Hu, Shanghai Jiao Tong University, China
PT04.3   Traffic Grooming in Light Trail Networks
Yabin Ye, Hagen Woesner, Roberto Grasso, Tao Chen and Imrich Chlamtac, Create-Net, Italy
PT04.4   Dynamic Light Trail Routing and Protection Issues in WDM Optical Network
Weiyi Zhang, Guoliang Xue, and Jian Tang, Arizona State University, USA
Krishnaiyan Thulasiraman, University of Oklahoma, USA
PT04.5   Mathematical Formulation of Optical Multicast with Loss-balanced Light-forest
Oliver Yu and Yuan Cao, University of Illinois at Chicago, USA