

## ECE Faculty Publication List (July 1, 2007 – June 30, 2008)

**Books/Editor: 1**

**Journal Articles: 14**

**Conference Presentations & Publications: 44**

**Presentations/Lectures/Exhibitions: 7**

### Books / Editor:

1. I. Cox, J. Bloome, M. Miller, **J. Fridrich**, and T. Kalker, *Digital Watermarking and Steganography*, Morgan Kaufmann, November 2007.

### Journal Articles:

1. **Y. Chen**, K. Hwang, and W. S. Ku, "Collaborative Detection of DDoS Attacks over Multiple Network Domains," *IEEE Transactions on Parallel and Distributed Systems*, Vol. 18, No. 12, December 2007.
2. **S. Craver**, I. Atakli, and J. Yu, "Reverse-Engineering a Watermark Detector Using an Oracle," *EURASIP Journal on Information Security*, Vol. 2007, Article ID 43034, 7 pages, doi:10.1155/2007/43034, 2007.
3. **J. Fridrich** and T. Pevný, "Detection of Double-Compression for Applications in Steganography," *IEEE Transactions on Information Forensics and Security*, Vol. 3(2), pp. 247-258, 2007.
4. **J. Fridrich**, M. Chen, M. Goljan, and J. Lukáš, "Determining Image Origin and Integrity Using Sensor Noise," *IEEE Transactions on Information Forensics and Security*, Vol. 3(1), pp. 74–90, March 2008.
5. **J. Fridrich**, M. Chen, J. Lukáš, and M. Goljan, "Imaging Sensor Noise as Digital X-Ray for Revealing Forgeries," *9th Information Hiding Workshop*, Saint Malo, France, June 9–11, LNCS, 4567, Springer-Verlag, pp. 342–358, 2007.
6. **J. Fridrich** and J. Bierbrauer, "Constructing Good Covering Codes for Applications in Steganography", *LNCS Transactions on Data Hiding and Multimedia Security*, Springer-Verlag, Vol. 4920, pp. 1–22, 2008.
7. **X. Li**, F. Ng, and T. Han, "Carrier Frequency Offset Mitigation in Asynchronous Cooperative OFDM Transmissions," *IEEE Trans. Signal Processing*, Vol. 56, No. 2, pp. 675-685, Feb. 2008.
8. **V. Nikulin**, J. Sofka, and R. Khandekar, "Effect of the Sampling Rate of the Tracking System on Free-Space Laser Communications," *Optical Engineering*; Vol. 47, No. 3, 036003, March 2008.
9. **V. Nikulin**, J. Sofka, **V. Skormin**, D. Hughes, and D. Legare, "Demonstration of Optical Connectivity Between Two Mobile Platforms," *Journal of Gyroscopy and Navigation*, St. Petersburg, Russia (in Russian).
10. **Q. Qiu**, P. Mukre, M. Bishop, D. Burns, and **Q. Wu**, "Hardware Acceleration for Thermodynamic Constrained DNA Code Generation," *Lecture Notes in Computer Science*, Vol. 4848, 2007.
11. **Q. Qiu**, D. Burns, P. Mukre, and **Q. Wu**, "Hardware Acceleration of Multi- deme Ge-netic Algorithm for DNA Codeword Searching," *International Journal of Information Technology and Intelligent*, May 2008.

12. **N.E. Wu**, Y. Guo, K. Huang, M. C. Ruschmann, **M. L. Fowler**, "Fault-Tolerant Tasking and Guidance of an Airborne Location Sensor Network," *International Journal of Control, Automation, and Systems, Special Section on Diagnosis and Fault-Tolerant Systems*, Marcel Staroswiecki and Bin Jiang, Guest Editors, Vol.6, No. 3, pp.351-363, June 2008.
13. **N.E. Wu**, M. C. Ruschmann, M. Linderman. "Fault-Tolerant Control of a Distributed Database System," *Special Issue on Robustness Issues in Fault Diagnosis and Fault-Tolerant Control, Journal of Control Science and Engineering*, Jakob Stoustrup and Kemin Zhou, Guest Editors, Paper ID-310652, 13 pages, January 2008.
14. **S. A. Zahorian**, H. Hu, "A Spectral/Temporal Method for Robust Fundamental Frequency Tracking," *Journal of the Acoustical Society of America*, 123 (6), pp. 4559-4571, June 2008.

### **Conference Presentations & Publications:**

1. Sumeet Kumar, **A. Aggarwal**, "Speculative Instruction Validation for Performance-Reliability Trade-off," *IEEE International Symposium on High Performance Computer Architecture (HPCA '08)*, February, 2008.
2. R. Bhowmik, C. Gupta, M. Govindaraju, **A. Aggarwal**, "Optimizing XML Processing for Grid Applications Using an Emulation Framework," *IEEE International Parallel & Distributed Processing Symposium (IPDPS '08)*, April, 2008.
3. Z. Su, Z. Zhang and **Y. Chen**, "Retrieve Scalable Image Contents over Image Contents Network by Efficient Caching Algorithms", *The 3<sup>rd</sup> International Conference of Innovative Computing, Information and Control (ICICIC 2008)*, Dalian, China, June 18-20, 2008.
4. H. Chen and **Y. Chen**, "A Novel Embedded Accelerator for Online Detection of Shrew DDoS Attacks," *2008 IEEE International Conference on Networking, Architecture, and Storage (NAS'08)*, Chongqing, China, June 12-14, 2008.
5. **Y. Chen**, J. Bao, W.-S. Ku, and J.-L. Huang, "Cache Management Techniques for Privacy Protected Location-Based Services," *The 2<sup>nd</sup> International Workshop on Privacy-Aware Location-Based Mobile Services (PALMS'08)*, in conjunction with the *9<sup>th</sup> International Conference on Mobile Data Management (MDM'08)*, Beijing, China, April 27, 2008.
6. I. Atakli, H. Hu, **Y. Chen**, W. S. Ku and Z. Su, "Malicious Node Detection in Wireless Sensor Networks using Weighted Trust Evaluation," *The ACM/SIGSIM Symposium on Simulation of System Security (SSSS'08)*, Ottawa, Canada, April 14-17, 2008.
7. **Y. Chen**, "NeuroNet: Towards an Intelligent Internet Infrastructure," *The 5<sup>th</sup> IEEE Consumer Communications and Networking Conference (CCNC'08)*, Las Vegas, Nevada, January 10-12, 2008.
8. **Y. Chen**, K. Hwang, and W. S. Ku, "Distributed Change-Point Detection of DDoS Attacks: Experimental Results on DETER Testbed," *DETER Community Workshop on Cyber Security Experimentation and Test*, in conjunction with *USENIX Security Symposium (Security'07)*, Boston, MA, August 6-7, 2008.
9. **S. Craver**, "A Supraliminal Channel in a Videoconferencing Application," *Information Hiding 08*, Santa Barbara, CA, May 2008.

10. J. A. Johnson and **M. L. Fowler**, "Cramer-Rao Lower Bound on Doppler Frequency of Coherent Pulse Trains," *2008 IEEE International Conference on Acoustics, Speech, and Signal Processing*, Las Vegas, NV, March 2008.
11. X. Hu and **M. L. Fowler**, "Sensor Selection for Multiple Sensor Emitter Location Systems," *IEEE Aerospace Conference*, Big Sky, Montana, March 1-8, 2008.
12. **J. Fridrich** and M. Goljan, "Camera Identification from Scaled and Cropped Images," *Proc. SPIE, Electronic Imaging, Security, Steganography, and Watermarking of Multimedia Contents X*, San Jose, CA, January 26–31, pp. OE-1–OE-13, 2008.
13. **J. Fridrich**, M. Goljan, and J. Lukáš, "Camera Identification from Printed Images," *Proc. SPIE, Electronic Imaging, Security, Steganography, and Watermarking of Multimedia Contents X*, San Jose, CA, January 26–31, pp. OI-1–OI-12, 2008.
14. **J. Fridrich** and T. Pevný, "Estimation of Primary Quantization Matrix for Steganalysis of Double-Compressed JPEG Images," *Proc. SPIE, Electronic Imaging, Security, Steganography, and Watermarking of Multimedia Contents X*, San Jose, CA, January 26–31, pp. 11-1–11-13, 2008.
15. **J. Fridrich** and J. Kodovský, "Influence of Embedding Strategies on Security of Steganographic Methods in the JPEG Domain," *Proc. SPIE, Electronic Imaging, Security, Steganography, and Watermarking of Multimedia Contents X*, pp. 02-1–02-13, San Jose, CA, January 26–31, 2008.
16. **J. Fridrich**, T. Pevný, and J. Kodovský, "Statistically Undetectable JPEG Steganography: Dead Ends, Challenges, and Opportunities," *Proc. ACM Multimedia and Security Workshop*, Dallas, TX, pp. 3–14, September 20–21, 2007.
17. T. Filler and **J. Fridrich**, "Binary Quantization using Belief Propagation with Decimation over Factor Graphs of LDGM Codes," *Proc. 45th Allerton Conference on Coding, Communication, and Control*, September 26–28, 2007.
18. **J. Fridrich**, M. Goljan, and Mo Chen, "Identifying Common Source Digital Camera from Image Pairs," *Proc. ICIP' 07*, San Antonio, Texas, September 14–19, 2007.
19. **X. Li**, "CFO-Resistant Receiver for Asynchronous MC-DS-CDMA Systems," *IEEE ICASSP'2007*, October 2007.
20. **X. Li**, "Secure Transmission Power of Cognitive Radios for Dynamic Spectrum Access Techniques," *42nd Annual Conference on Information Sciences and Systems (CISS'2008)*, March 2008.
21. **X. Li**, "Sum Transmission Power of Multiple Cooperative Secondary Transmitters in Dynamic Spectrum Access Networks," *42nd Annual Conference on Information Sciences and Systems (CISS'2008)*, March 2008.
22. **X. Li**, "Transmission Power and Capacity of Secondary Users in a Dynamic Spectrum Access Network," *IEEE Military Communications Conference (MILCOM' 2007)*, October 2007.
23. **X. Li**, "An Efficient Method for Hop Selection and Capacity Enhancement in Multi-Hop Wireless Ad-hoc Networks," *IEEE Military Communications Conference (MILCOM' 2007)*, October 2007.
24. R. Khandekar and **V. Nikulin**, "Diffraction-Based Optical Sensor Detection System for Capture-Restricted Environments," *Proc. SPIE, Optics and Photonics in Global Homeland Security IV(Defense + Security)*, Orlando, FL, March 16 – 20, 2008.
25. R. Khandekar and **V. Nikulin**, "Estimation-Based Mitigation of Dynamic Optical Turbulence: an Experimental Study," *Proc. SPIE, Free-Space Laser Communication Technologies XX*, San Jose, CA, January 19-24, 2008.

26. **V. Nikulin**, R. Khandekar, and **V. Skormin**, "High-Bandwidth Predictive Tracking System for Free-Space Laser Communications," *Proc. 15th St. Petersburg International Conference on Integrated Navigation Systems*, St. Petersburg, Russia, May 26-28, 2008.
27. **Q. Qiu** and **Q. Wu**, "Adaptive Scheduling and Voltage Scaling for Multiprocessor Real-time Applications with Non-deterministic, Workload," *Proc. of Design, Automation and Test in Europe*, March 2008.
28. **Q. Qiu** and **Q. Wu**, "Dynamic Voltage and Frequency Selection for Real-Time System with Energy Scavenging," *Proc. of Design, Automation and Test in Europe*, March 2008.
29. **Q. Qiu**, "A Framework of Stochastic Power Management Using Hidden Markov Model," *Conference of Design, Automation and Test in Europe*, March 2008.
30. **Q. Qiu**, "Power Optimization for Conditional Task Graphs in DV Enabled Multiprocessor Systems," *IFIP International Conference on Very Large Scale Integration*, October 2007.
31. **Q. Qiu** and **Q. Wu**, "Hardware Acceleration of Multi-Deme Genetic Algorithm for the Application of DNA Codeword Searching," *Proc. of the Genetic and Evolutionary Computation Conference*, July 2007.
32. **Q. Qiu**, "Resource-Aware High Performance Scheduling for Embedded MPSoCs With the Application of MPEG Decoding," *International Conference on Multimedia & Exp*, July 2007.
33. **Q. Qiu** and **Q. Wu**, "Hardware Acceleration for Thermodynamic Constrained DNA Code Generation," *Proc. of the 13th International Meeting on DNA Computing*, June 2007.
34. V. Gorodetsky, I. Kotenko, **V. Skormin** (Eds.), "Computer Network Security," *Fourth International Conference on Mathematical Methods, Models, and Architectures for Computer Network Security, Proceedings*, Springer, 2007.
35. **V. Skormin**, O. Shirayayeva, A. Tokhtabayev, and J. Moronski, "Towards a Fully Automatic Defense Mechanism for a Computer Network Emulating Active Immune Response," *Proc. MMM-ACNS*, St. Petersburg, Russia, September 20, 2007.
36. A. Tokhtabayev, A. Altaibek, **V. Skormin**, and U. Tukeyev, "A Novel Intrusion Detection System for a Local Computer Network" *Proc. of MMM-ACNS*, St. Petersburg, Russia, Sept. 20, 2007.
37. **N.E. Wu**, M.C. Ruschmann, "Loop Closure for Enhanced Win Percentage in Air Operations," *Proceedings American Control Conference 2007*, New York, N.Y., July 2007.
38. M.C. Ruschmann, **N.E. Wu**, "Optimal Control of a Database with Reduced and Full State Model," *Proceedings IEEE Conference on Decision and Control*, 2007, New Orleans, LA., December 2007.
39. M.C. Ruschmann, **N.E. Wu**, "Perturbation Analysis for Optimal Renewal Intervals of Data Sets," *Proceedings American Control Conference 2008*, Seattle, WA., June 2008.
40. J. Qu, **N.E. Wu**, R.N. Miles, H.U. Vargas, "Active Damping of a Silicon Microphone Using a Linear Controller," *Proceedings American Control Conference 2008*, Seattle, WA., June 2008.
41. H.V. Vargas, **N.E. Wu**, R.N. Miles, and J. Qu, Robust control design for resonance damping of a directional microphone, *Proceedings World Congress, International Federation of Automatic Control*, 2008. Seoul, Korea.

42. **Q. Wu**, “Accelerating Cogent Confabulation: an Exploration in the Architecture Design Space,” *Proc. of 2008 International Joint Conference on Neural Networks and IEEE World Congress on Computational Intelligence*, June 2008.
43. **Q. Wu**, “Performance Optimization for Pattern Recognition Using Associative Neural Memory,” *Proc. of 2008 IEEE International Conference on Multimedia & Expo*, June 2008.
44. **S. A. Zahorian**, Tara Singh, Hongbing Hu, “Dimensionality Reduction of Speech Features Using Nonlinear Principal Components Analysis,” *Interspeech 2007*, August, 2007.

**Presentations / Lectures / Exhibitions:**

1. **M. Fowler**, “The Impact of Acoustic Signal Models on TDOA/FDOA Estimation,” *Acoustical Society of America, 154th Meeting*, New Orleans, Louisiana, November 27-December 1, 2007.
2. **X. Li**, “Cognitive Radio for Dynamic Spectrum Access and Wireless Security,” *AFRL/IF Summer Faculty Seminar*, August 2007.
3. **X. Li**, “Advanced Antenna Array Transmission Technology and Wireless Information Assurance,” *Mohawk Valley Section IEEE AP/MTT Society Chapter, Griffiss Institute Center for Information Assurance*, August 2007.
4. **V. Nikulin**, “A Series of Lectures on Adaptive Control Systems and Free-Space Laser/Quantum Communications,” *Faculty and Ph.D. Students of the Eurasian National University*, Astana, Kazakhstan, May 2008.
5. **C. Twigg**, “Large-Scale Field-Programmable Analog Arrays,” *DARPA DSRC Workshop on Electronic Stem Cells*, January 2008.
6. **C. Twigg**, “Reconfigurable and Programmable Analog Arrays for Neuromorphic Engineering,” *DARPA DSRC Workshop on Electronic Stem Cells*, June 2008.
7. **S. A. Zahorian**, “Recent Experiences with ABET Evaluations,” *Electrical and Computer Engineering Department Heads Meeting* 2008.