

## ECE Faculty Publication List (July 1, 2006 – June 30, 2007)

**Books/Book Chapters/Editor: 3**  
**Journal Articles: 12**  
**Conference Presentations & Publications: 37**  
**Presentations/Lectures/Exhibitions: 5**

### Books / Book Chapters / Editor:

1. **Y. Chen**, “Distributed Data Aggregation Technology for Real-Time DDos Attacks Detection,” contribution to the *Encyclopedia of Data Warehousing and Mining*, 2<sup>nd</sup> Edition, edited by John Wang, IGI Publishing, IRM Press, Information Science Publishing, Cybertec Publishing, and Information Science Reference, to be published in 2008.
2. W. Zeng, H. Yu, and C. Lin (editors), chapter (**J. Fridrich**) in *Multimedia Security Technologies for Digital Rights Management*, Elsevier, 2006.
3. I. Cox, J. Bloome, M. Miller, **J. Fridrich**, and T. Kalker, *Digital Watermarking and Steganography*, Morgan Kaufmann, to be published in November 2007.
4. V. Gorodetsky, C. Zhang, **V. Skormin**, and L. Cao (editors), *Autonomous Intelligent Systems: Agents and Data Mining: Second International Workshop AIS-ADM 2007, Lecture Notes in Artificial Intelligence*, Volume 4476, Springer, 2007.

### Journal Articles:

1. **Y. Chen**, K. Hwang, and W. Ku, “Collaborative Monitoring and Detection of DDoS Flooding Attacks in ISP Core Networks,” *IEEE Transactions on Parallel and Distributed Systems*, to appear in 2007.
2. P. Misri and **J. H. Constable**, “Evaluation of Anisotropic Conductive Film for a Flex to Silicon Interconnection,” *IEEE Transactions on Components and Packaging Technologies*, 29(4), pp. 809 – 817, December 2006.
3. **J. H. Constable**, “Investigation of Environmental Noise in Small Electrical Conductors,” *IEEE Transactions on Instrumentation and Measurement*, 55(6), pp. 2045 – 2054, December 2006.
4. **J. H. Constable**, “Analysis of the Constriction Resistance in an ACF Bond,” *IEEE Transactions on Components and Packaging Technologies*, 29(3), pp. 494 – 501, September 2006.
5. **S. Craver**, J. Yu, and I. Atakli, “Reverse-engineering a Watermark Detector Using Oracle,” *Eurasip Journal on Information Security*, to appear in 2007.
6. **J. Fridrich** and T. Penvy, “Determining the Stego Algorithm for JPEG Images,” Special Issue of *IEE-IFS Processings*, 2006.
7. **J. Fridrich** and T. Penvy, “Determining the Stego Algorithm for JPEG

- Images,” Special Issue of *IEEE Proceedings – Information Security*, 153(3), pp. 75 – 139, 2006.
8. **J. Fridrich** and D. Soukal, “Matrix Embedding for Large Payloads,” *IEEE Transactions on Information Security and Forensics*, 1(3), pp. 75 – 139, 2006.
  9. **J. Fridrich** and P. Lisonek, “Grid Colorings in Steganography,” *IEEE Transactions on Information Theory*, 53(4), pp. 1547 – 1549, April 2007.
  10. **X. Li**, J. Hwu, and E. P. Ratazzi, “Using Antenna Array Redundancy and Channel Diversity for Secure Wireless Transmissions,” *Journal of Communications*, Issue 3, 2007.
  11. **Q. Qiu**, D. Burns, P. Mukre, **Q. Wu**, "Hardware Acceleration of Multi-deme Genetic Algorithm for DNA Codeword Searching," to appear in the *International Journal of Information Technology and Intelligent Computing*, 2008.
  12. J. Sofka, **V. Nikulin**, **V. Skormin**, D. Hughes, and D. Legare, “Towards Practical Pointing, Acquisition, and Tracking Systems Enabling Laser Communication Between Mobile Platforms,” to appear in *IEEE Transactions on Aerospace and Electronic Systems*.
  13. **V. Skormin**, A. Volynkin, **D. Summerville**, and J. Moronski, “Prevention of Information Attacks by Run-Time Detection of Self-Replication in Computer Codes,” *Journal of Computer Security*, 15(2), pp. 273 – 301, 2007.
  14. N. A. Moldovyan, P. A. Moldovyan, and **D. Summerville**, “On Software Implementation of Fast DDP-Based Ciphers,” *International Journal of Network Security*, 4(1), pp. 81 – 89, 2007.
  15. **N. E. Wu**, **X. Li**, and Thavamani, “Reliability and Feedback of Multiple-hop Wireless Networks,” *International Journal of Automation and Computing*, 4(2), pp. 125–134, 2007.
  16. **N. E. Wu** and T. Busch, “Reconfiguration of C2 Architecture for Improved Availability to Support Air Operations,” *IEEE Transactions on Aerospace and Electronics*, 43(2), pp. 795 – 805, April 2007.

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

1. C. Colonna and **A. Aggarwal**, “Register Reallocation through False Dependencies,” *3<sup>rd</sup> International IBM PAC2 Conference*, October 2006.
2. J. Sharkey, N. Abu-Ghazaleh, D. Ponomarev, K. Ghose, and **A. Aggarwal**, “Trade-offs in Transient Fault Recovery Schemes for Redundant Multithreaded Processors,” *IEEE International Conference on High Performance Computing (HiPC’06)*, Bangalore, India, December 2006.
3. P. Pujara and **A. Aggarwal**, “Increasing Cache Capacity through Word Filtering,” *Proc. International Conference on Supercomputing*, Seattle, Washington, June 2007.
4. R. Bhowmik, C. Gupta, M. Govindaraju, and **A. Aggarwal**, “McGrid:

- Framework for Optimizing Grid Middleware on Multi-core Processors,” *Workshop on Service-Oriented Computing Performance: Aspects, Issues, and Approaches*, held in conjunction with *IEEE International Symposium on High Performance Distributed Computing (HPDC) 2007*, Monterey Bay, California, June 2007.
5. R. Bhowmik, C. Gupta, M. Govindaraju, and **A. Aggarwal**, “Efficient XML-based Grid Middleware Design for Multi-Core Processors,” accepted for publication in the Work in Progress track of *ICWS 2007: IEEE International Conference on Web Services*, Salt Lake City, Utah, July 2007.
  6. **Y. Chen** and K. Hwang, “Spectral Analysis of TCP Flows for Defense Against Reduction-of-Quality Attacks,” *2007 IEEE International Conference on Communications (ICC '07)*, Glasgow, Scotland, June 2007.
  7. **S. Craver**, “Vicarious Infringement Creates a Privacy Ceiling,” *Proceedings of DRM 2006, 6<sup>th</sup> Annual Workshop on Digital Rights Management*, August 2006.
  8. **S. Craver**, “Reverse-engineering a Watermark with False Alarms,” *Proceedings of SPIE, Security and Watermarking of Multimedia Contents IX*, San Jose, California, January 2007.
  9. **S. Craver**, “How We Broke the BOWS Watermark,” *Proceedings of SPIE, Security and Watermarking of Multimedia Contents*, San Jose, California, January 2007.
  10. X. Hu, M. Chen, and **M. L. Fowler**, “Exploiting Data Compression Methods for Network-Level Management of Multi-Sensor Systems,” *Proceedings of SPIE – The International Society for Optical Engineering*, 6315, *Conference on Mathematics of Data/Image Pattern Recognition, Compression, and Encryption with Applications IX*, San Diego, California, July 2006.
  11. **M. L. Fowler** and M. Chen, “Perspectives on Data Compression for Estimations From Sensors,” *Proceedings of SPIE – The International Society for Optical Engineering*, 6315, *Conference on Mathematics of Data/Image Pattern Recognition, Compression, and Encryption with Applications IX*, San Diego, California, July 2006.
  12. **J. Fridrich**, “Minimizing the Embedding Impact in Steganography,” *Proceedings ACM MM&S Workshop*, Geneva, September 26-27, 2006.
  13. **J. Fridrich**, P. Lisonek, and D. Soukal, “On Steganographic Embedding Efficiency,” *8<sup>th</sup> International Information Hiding Workshop*, Alexandria, Virginia, July 2007.
  14. **J. Fridrich**, M. Chen, and M. Goljan, “Imaging Sensor Noise as Digital X-Ray for Revealing Forgeries,” *Proceedings of the 9<sup>th</sup> Information Hiding Workshop*, Saint Malo, France, June 11-13, 2007.
  15. **J. Fridrich**, M. Goljan, and M. Chen, “Identifying Common Source Digital Camera From Image Pairs,” to appear in *Proceedings ICIP 2007*, September 14-19, 2007.
  16. **J. Fridrich** and T. Penvy, “Merging Markov and DCT Features for

- Multi-Class JPEG Steganalysis,” *Proceedings of SPIE Electronic Imaging*, Photonics West, January 2007.
17. **J. Fridrich** and T. Filler, “Practical Methods for Minimizing Embedding Impact in Steganography,” *Proceedings of SPIE Electronic Imaging*, Photonics West, January 2007.
  18. **J. Fridrich**, M. Chen, and M. Goljan, “Digital Imaging Sensor Identification (Further Study),” *Proceedings of SPIE Electronic Imaging*, Photonics West, January 2007.
  19. **J. Fridrich**, M. Chen, and M. Goljan, “Source Digital Camcorder Identification Using Sensor Photo-Response Non-Uniformity,” *Proceedings of SPIE Electronic Imaging*, Photonics West, January 2007.
  20. **X. Li** and F. Ng, “Using Cyclic Prefix to Mitigate Carrier Frequency and Timing Asynchronism in Cooperative OFDM Transmissions,” *Proceedings of the 40<sup>th</sup> Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, California, Oct. 29 – Nov. 1, 2006.
  21. F. Ng and **X. Li**, “CFO-resistant Receiver for Asynchronous MCDS-CDMA Systems,” *Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP’07)*, Honolulu, Hawaii, April 2007.
  22. R. Khandekar and **V. Nikulin**, “Mitigation of Dynamic Wavefront Distortions Using a Modified Simplex Optimization Approach,” *Proceedings of SPIE*, 6304, 63041J9, *Free-Space Laser Communications VI*, San Diego, California, August 2006.
  23. R. Khandekar and **V. Nikulin**, “Mitigation of Optical Turbulence Effects Using a Modified Simplex Optimization Approach: Experimental Study,” *Proceedings of SPIE*, 6457, 64570E, *Free-Space Laser Communication Technologies XIX*, San Jose, California, January 2007.
  24. **V. Nikulin** and D. Nicholson, “Hybrid Beam Steering System for Laser Communication Between Mobile Platforms,” *Proceedings of SPIE*, 6457, 645709, *Free-Space Laser Communication Technologies XIX*, San Jose, California, January 2007.
  25. J. Sofka, **V. Nikulin**, **V. Skormin**, D. Hughes, and D. Legare, “Demonstration of Optical Connectivity Between Two Mobile Platforms,” *Proceedings of the 14<sup>th</sup> St. Petersburg International Conference on Integrated Navigation Systems*, St. Petersburg, Russia, May 2007.
  26. **Q. Qiu**, D. Burns, **Q. Wu**, and D. Holzhauer, “Distributed Genetic Algorithm for Energy-Efficient Resource Management in Sensor Networks,” *Proceedings of the Genetic and Evolutionary Computation Conference*, July 2006.
  27. **Q. Qiu**, D. Burns, **Q. Wu**, and D. Holzhauer, “Lifetime Aware Resource Management for Sensor Network Using Distributed Genetic Algorithm,” *International Symposium on Low Power Electronics and Design*, October 2006.
  28. **Q. Qiu**, S. Liu, and **Q. Wu**, “Task Merging for Dynamic Power Management of Cyclic Applications in Real-Time Multiprocessor Systems,” *International Conference on Computer Design*, October 2006.

29. **Q. Qiu**, Y. Tan, and **Q. Wu**, "Stochastic Modeling and Optimization for Robust Power Management in a Partially Observable System," *Design Automation and Test in Europe*, April 2007.
30. **Q. Qiu**, D. Burns, **Q. Wu**, and P. Mukre, "Hybrid Architecture for Accelerating DNA Codeword Library Searching," *2007 IEEE Symposium on Computational Intelligence in Bioinformatics and Computational Biology*, April 2007.
31. P. Malani, P. Mukre, and **Q. Qiu**, "Profile-Based Low Power Scheduling for Conditional Task Graph: A Communication Aware Approach," *Proceedings of the International Symposium of Circuits and Systems*, May 2007.
32. **Q. Qiu**, P. Mukre, M. Bishop, D. Burns, and **Q. Wu**, "Hardware Acceleration for Thermodynamic Constrained DNA Code Generation," *Proceedings of the 13th International Meeting on DNA Computing*, June 2007.
33. **Q. Qiu**, D. Burns, P. Mukre, and **Q. Wu**, "Hardware Acceleration of Multi-deme Genetic Algorithm for the Application of DNA Codeword Searching," *Proceedings of the Genetic and Evolutionary Computation Conference*, July 2007.
34. P. Malani, Y. Tan, and **Q. Qiu**, "Resource-aware High Performance Scheduling for Embedded MPSoCs with the Application of MPEG Decoding," *Proceedings of the International Conference on Multimedia & Expo*, July 2007.
35. P. Malani, P. Mukre, and **Q. Qiu**, "Power Optimization for Conditional Task Graphs in DVS Enabled Multiprocessor Systems," to appear in the *Proceedings of the 15th Annual IFIP International Conference on Very Large Scale Integration*, October 2007.
36. **V. Skormin**, M. Pechoucek, and T. Busch, "Multi-Agent System for Airspace Control in the Combat Zone," *Proceedings of the 18<sup>th</sup> International Conference on Systems Research, Informatics, and Cybernetics, Advances in Intelligent Software Systems*, Baden-Baden, Germany, August 2006.
37. J. Sofka and **V. Skormin**, "Integrated Approach to Electromechanical Design of a Digitally Controlled High Precision Actuator for Aerospace Applications," *Proceedings of the IEEE International Conference on Control Applications*, Munich, Germany, October 2006.
38. A. Volynkin and **V. Skormin**, "Large-scale Reconfigurable Virtual Testbed for Information Security Experiments," *Proceedings of the 3<sup>rd</sup> International Conference on Testbeds and Research Infrastructures for the Development of Networks and Communities*, Orlando, Florida, May 2007.
39. **E. Wu**, "Performance Analysis of a Controlled Multi-Queue Database with Control Delay and Decision Errors," *8<sup>th</sup> International Workshop of Discrete Event Systems*, July 2006.
40. **E. Wu**, "Effect of Acknowledgement on Performance of Fault-Tolerant

- Wireless Networks,” *IFAC Symposium on Safeprocess*, August 2006.
41. **E. Wu**, “Performance Analysis of a Controlled Single-Queue Database Unit with Control Delay and Decision Errors,” *Proceedings of IEEE Conference on Decision and Control*, December 2006.
  42. **Q. Wu, Q. Qiu**, D. Burns, M. Moore, D. Fitzgerald, and R. Lindermann, “Architectural Design and Complexity Analysis of Large-Scale Cortical Simulation on a Hybrid Computing Platform,” *Proceedings of the Computational Intelligence for Security and Defense Applications*, April 2007.
  43. A. Brahmabhatt, J. Zhang, **Q. Wu**, and **Q. Qiu**, “Low-Power Bus Encoding Using an Adaptive Hybrid Algorithm,” *Proceedings of the Design Automation Conference*, July 2006.
  44. **S. A. Zahorian**, P. Dikshit, and H. Hu, “A Spectral-Temporal Method for Pitch Tracking,” *Interspeech 2006-ICSLP*, Pittsburgh, Pennsylvania, September 2006.
  45. **S. A. Zahorian**, T. Singh, and H. Hu, “Dimensionality Reduction of Speech Features Using Nonlinear Principal Components Analysis,” accepted for presentation at *Eurospeech 2007*, August 2007.

#### **Presentations / Lectures / Exhibitions:**

1. **J. Fridrich**, “Digital Forensics Using Sensor Noise,” keynote lecture given to Rochester IEEE, May 2007.
2. **V. Skormin**, A. Tokhtabayev, O. Shirayeva, S. Mazur, “Continuous Status Assessment of a Computer Network by Selective Scanning,” presented at the Information Assurance Science and Technology Series – Cyber Defense Conference held at the Griffiss Institute, Rome, New York, May 2007.
3. **N. E. Wu**, “Control Reconfigurability in Command and Control Systems,” AFOSR Program Review, Given to PIs and Program Manager of the Dynamics and Control Program, Atlanta, Georgia, August 2006.
4. **N. E. Wu**, “Highly Available C2 Supporting Systems for Air Operation,” AFOSR Program Review, Given to PIs and Program Manager of the Distinguished Intelligence Program, Dayton, Ohio, March 2007.
5. **M. Fowler**, “Task-driven Sensing for Network-wide Optimization of Sensor Systems,” AFOSR Program Review, Given to PIs and Program Manager of the Distributed Intelligence Program, Dayton, Ohio, March 2007.