

ECE Faculty Publication List (July 1, 2008 – June 30, 2009)

Books/Editor: 7

Journal Articles: 35

Conference Presentations & Publications: 46

Presentations/Lectures/Exhibitions: 9

Books / Book Chapters/ Editor:

1. **Y. Chen**, H. Chen, and W.-S. Ku, "Malicious Node Detection in Wireless Sensor Networks," *Security in RFID and Sensor Networks*, edited by Josh Y. Zhang and Paris Kitsos, published by Auerbach Publications, Taylor & Francis Group, ISBN 1420068393, 2009.
2. **Y. Chen** and W.-S. Ku, "Distributed Data Aggregation for DDoS Attacks Detection," *Encyclopedia of Data Warehousing and Mining*, 2nd Edition, edited by John Wang, published by Idea Group, Inc., ISBN 1591405572, 2008.
3. **J. Fridrich**, *Steganography and Steganalysis: Principles, Algorithms, and Applications*, Cambridge University Press, November 30, 2009.
4. **J. Fridrich**, J. Dittmann, A. D. Ker (editors), *Proc. ACM Multimedia and Security Workshop*, Oxford, UK, September 22–23, 2008.
5. D. K. Syleev, **V.A. Skormin**, O.I. Shiryaeva, *Automatic Controls (Linear Systems)*, Almaty, Kazakhstan, Asem-System Publishing, 2008.
6. **V.A. Skormin**, *Advanced Process Control: Analysis, Modeling, Control and Optimization*, 2009.
7. **Douglas H. Summerville**, "Embedded Systems Interfacing for Engineers using the Freescale HCS08 Microcontroller I: Assembly Language Programming, Morgan & Claypool, ISBN 9781608450053, 2009.

Journal Articles:

1. H. Hu, **Y. Chen**, W.-S. Ku, Z. Su, and C.-H. Chen, "Weighted Trust Evaluation Based Malicious Node Detection for Wireless Sensor Networks", *the International Journal of Information and Computer Security, special issue on Simulation of System Security*, Vol. 3, No. 2, 2009.
2. **Y. Chen** and H. Chen, "NeuroNet: An Adaptive Infrastructure for Network Security," *International Journal of Information, Intelligence and Knowledge*, Vol.1, No.2, 2009.
3. W.-S. Ku, **Y. Chen**, and R. Zimmermann, "Privacy Protected Spatial Query Processing for Advanced Location Based Services", *Journal of Wireless Personal Communications, special issue on Information Security and Data Protection in Future Generation Communication and Networking*, Vol. 47, October, 2008.
4. **M. L. Fowler** and X. Hu, "Signal Models for TDOA/FDOA Estimation," *IEEE Transactions on Aerospace and Electronic Systems*, October 2008.
5. M. Chen and **M. L. Fowler**, "Data Compression for Multiple Parameter Estimation with Application to Emitter Location Systems," Revision under review, *IEEE Transactions on Aerospace and Electronic Systems*.

6. **M. L. Fowler**, M. Chen, J. A. Johnson, and Z. Zhou, "Data Compression using SVD and Fisher Information for Radar Emitter Location," under review.
7. **N. E. Wu**, Y. Guo, K. Huang, M. C. Ruschmann, **M. L. Fowler**, "Fault-Tolerant Tasking and Guidance of an Airborne Location Sensor Network," *J. of Control, Autom. and Systems*, Vol. 6, No. 3, June 2008.
8. T. Filler and **J. Fridrich**, "Fisher Information Determines Capacity of epsilon-secure Steganography," 11th Information Hiding Workshop, Darmstadt, June 7–10, 2009, to appear in LNCS, Springer-Verlag. (Filler – graduate student co-author).
9. **J. Fridrich**, Asymptotic Behavior of the ZZW Embedding Construction, *IEEE Trans. on Info. Forensics and Security*, Vol. 4(1), pp. 151–153, March 2009.
10. **J. Fridrich**, Digital Image Forensics Using Sensor Noise. Signal Processing Magazine, Special Issue on Digital Forensics, Vol. 26(2), pp. 26–37, March 2009.
11. T. Pevný and **J. Fridrich**, "Benchmarking for Steganography," 10th Information Hiding Workshop, Santa Barbara, California, May 19–21, LNCS, Vol. 5284, Springer-Verlag, pp. 251-267, 2008 (Pevny – graduate student co-author).
12. **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.
13. T. Pevný and **J. Fridrich**, "Multi-Class Detector of Current Steganographic Methods for JPEG Format," *IEEE Trans. on Info. Forensics and Security*, Vol. 3(4), pp. 635–650, December 2008 (Pevny – graduate student co-author).
14. T. Pevný and **J. Fridrich**, "Detection of Double-Compression in JPEG Images for Applications in Steganography," *IEEE Trans. on Info. Forensics and Security*, Vol. 3(2), pp. 247–258, 2008 (Pevny – graduate student co-author).
15. **J. Fridrich**, M. Chen, M. Goljan, and J. Lukáš, "Determining Image Origin and Integrity Using Sensor Noise," *IEEE Trans. on Info. Forensics and Security*, Vol. 3(1), pp. 74–90, March 2008.
16. H. Mu, **D. Klotzkin**, A. Silva, H. Wagner, D. White, B. Sharpton, "Temperature Dependence of Electron Mobility, Electroluminescence and Photoluminescence of Alq₃ in OLED", *J. Phys. D: Appl. Phys*, Vol. 41, 235109, doi: 10.1088/0022-3727/41/23/235109, November 2008.
17. Y. Zhou, **D. Klotzkin**, "Design and Parallel Fabrication of Wire-Grid Polarization Arrays for Polarization-Resolved Imaging at 1.55 μm ", *Applied Optics*, Vol. 47, Issue 20, pp. 3555-3560 doi:10.1364/AO.47.003555.
18. J. Chen, **X. Li**, B. Chen, G. Zheng and X. Wang, "Availability Analyses of CR in Gray Spectrum," *Chinese Scientific Papers On-line*, #200811-488, November 18, 2008. (<http://www.paper.edu.cn> <<http://www.paper.edu.cn>>)
19. J. Chen, **X. Li**, B. Chen, F. Cai, X. Wang and G. Zheng, "Research on Sensor Network-Based Wireless Switch," *Electronic Devices* (in Chinese), April 2009.
20. J. Chen, **X. Li**, B. Chen and F. Cai, "Research on Smart Residential Wiring," *Industrial Construction* (in Chinese), July 2009.
21. V. Yassinskiy and **V. Nikulin**, "Optical Sensor on the Basis of Nonlinear Differential Holographic Refractometer for the Detection of Chemicals in Liquids and Gases," *Physics*, No. 3, Kazakhstan, September 2008.

22. J. Sofka, **V. Nikulin**, **V. Skormin**, D. Hughes, and D. Legare, "Laser Communication Between Mobile Platforms," *IEEE Trans. on Aerospace and Electronic Systems*, Vol. 45, No. 1, pp. 336-346, January 2009.
23. **V. Nikulin**, J. Sofka, **V. Skormin**, D. Hughes, D. Legare, "Towards Practical Pointing, Acquisition and Tracking System Enabling Laser Communication between Mobile Platforms", *IEEE Trans. on Aerospace and Electronic Systems*, Vol. 45, No. 2, 2009.
24. R.K. Sharma, **A.C. Rastogi**, "Properties and Mechanism of Solar Absorber CdTe Thin Film Synthesis by Unipolar Galvanic Pulsed Electrodeposition," *Journal of Applied Electrochemistry*, Vol. 39 No. 2, pp. 167-176, February 2009.
25. R.K. Sharma, **A.C. Rastogi**, **S.B. Desu**, "Manganese Oxide Embedded Polypyrrole Nanocomposites for Electrochemical Supercapacitor", *Electrochimica Acta*, Vol. 53, No. 26, pp. 7690-7695, November 2008.
26. S.H. Lim, Suma Desu, **A.C. Rastogi**, "Chemical Spray Pyrolysis Deposition and Characterization of p-type CuCr_{1-x}Mg_xO₂ Transparent Oxide Semiconductor Thin Films," *Journal of Physics and Chemistry of Solids*, Vol. 69, No. 8, pp. 2047-2056, August 2008.
27. **A.C. Rastogi**, S.H. Lim, S.B. Desu, "Structure and Optoelectronic Properties of Spray Deposited Mg doped p-CuCrO₂ Semiconductor Oxide Thin Films," *Journal of Applied Physics*, Vol. 104, No. 2, Article Number: 023712, July 15, 2008.
28. **C. M. Twigg**, and P. E. Hasler, "Incorporating Large-Scale FPAs into Analog Design and Test Courses," *IEEE Transactions on Education*, Vol. 51, No. 3, pp. 319-324, August 2008.
29. V. Srinivasan, G. Serrano, **C. M. Twigg**, and P. E. Hasler, "A floating-Gate Based Programmable CMOS Reference," *IEEE Transactions on Circuits and Systems I*, Vol. 55, No. 11, pp. 3448-3456, December 2008.
30. U. C. Hasar, **C. R. Westgate**, and M. Ertugrul, "Noniterative Permittivity Extraction of Lossy Liquid Materials from Reflection Asymmetric Amplitude-Only Microwave Measurements," *IEEE Microwave and Wireless Components Letters*, Vol. 19, No. 6, pp. 419-421 June 2009.
31. U. C. Hasar and **C. R. Westgate**, "A Broadband and Stable Method for Unique Complex Permittivity Determination of Low-Loss Materials," *IEEE Trans. Microw. Theory Tech.*, Vol. 57, No. 2, pp. 471-477, February 2009.
32. U. C. Hasar, **C. R. Westgate**, and M. Ertugrul, "Permittivity Determination of Liquid Materials Using Waveguide Measurements for Industrial Applications," *IET Microw. Antennas Propagation*, in press 2009.
33. **N. E. Wu**, "Introduction to Discrete Event Systems, Cassandras and Lafortune", *IEEE Control Systems Magazine*, June 2009.
34. **N. E. Wu**, Y. Guo, K. Huang, M. C. Ruschmann, **M. L. Fowler**, "Fault-Tolerant Tasking and Guidance of an Airborne Location Sensor Network," *J. of Control, Autom. and Systems*, Vol. 6, No. 3, June 2008.
35. J. Zhang, A. Brahmhatt, **Q. Wu**, "Adaptive Bus Encoding Methods for Energy and Delay Optimization", *ACM Transactions on Design Automation of Electronic Systems*.

Conference Presentations & Publications:

1. T. Suri and **A. Aggarwal**, Improving Performance of Simple Cores by Exploiting Loop-Level Parallelism through Value Prediction and Reconfiguration, Proc. *6th Annual ACM International Conference on Computing Frontiers (CF'09)*, May, 2009.
2. T. Suri and **A. Aggarwal**, Improving Scalability and Per-core Performance in Multi-Cores Through Resource Sharing and Reconfiguration, *Proc. 22nd Annual IEEE International Conference on VLSI Design (VLSID'09)*, January, 2009. (Best Student Paper Award)
3. T. Suri and **A. Aggarwal**, Scalable Multi-cores with Improved Per-core Performance Using Off-the-Critical Path Reconfigurable Hardware. *Proc. 15th Annual IEEE/ACM International Conference on High Performance Computing (HiPC'08)*, December, 2008. (Best Paper Award)
4. **Y. Chen** and W.-S. Ku, "Self-Encryption Scheme for Data Security in Mobile Devices", the 6th IEEE Consumer Communications and Networking Conference - Security for CE Communications (CCNC'09), Las Vegas, Nevada, USA, January 10 - 13, 2009.
5. Z. Su, J. Katto, Y. Yasuda, and **Y. Chen**, "Consistency Control for Dynamic Contents in Mobile Overlay Network," the 3rd International Conference on Communications and Networking in China (ChinaCom'08), Hangzhou, China, August 25 - 27, 2008. (Best Paper Award)
6. I. Atakli, **Y. Chen**, **S. Craver**, **Q. Wu**, "BLINK: Pixel-Domain Encryption for Secure Document Management," *11th ACM Multimedia and Security Workshop*, NJ September 2009.
7. **J.H. Constable**, Michael Stevenson, Ming Hung Hung, and Bill Infantolino, "Evaluation of Resistance Change as a Predictor of Thermal Actuator Displacement," *ASME InterPACK '09*, <http://www.asneconferences.org/InterPACK09/>, July 2009.
8. **S. Craver**, E. Li, "A Supraliminal Channel in a Wireless Phone Application," *11th ACM Multimedia and Security Workshop*, NJ, September 2009.
9. **S. Craver**, E. Li and J. Yu, "Protocols for Data Hiding in Pseudo-Random State," *SPIE Multimedia Forensics and Security*, San Jose, CA, January 2009.
10. **S. Craver**, **Y. Chen**, H. Chen, J. Yu, and I. M. Atakli, "BLINK: Securing Information to the Last Connection", the 6th IEEE Consumer Communications and Networking Conference (CCNC'09 Short Paper), Las Vegas, Nevada, USA, January 10 - 13, 2009.
11. **M. L. Fowler** and Xi Hu, "Impact of Signal model on data compression for TDOA/FDOA emitter location," *Proceedings of SPIE - The International Society for Optical Engineering, Mathematics of Data/Image Pattern Recognition, Compression, and Encryption with Applications XI, SPIE Annual Meeting*, August 2008.
12. Xi Hu and **M. L. Fowler**, "Data compression in emitter location systems via sensor pairing and selection," *Proceedings of SPIE - The International Society for Optical Engineering, Mathematics of Data/Image Pattern Recognition, Compression, and Encryption with Applications XI, SPIE Annual Meeting*, August 2008.

13. R. Ren, **M. L. Fowler**, and **N. E. Wu**, "Finding Optimal Trajectory Points for TDOA/FDOA Geo-Location Sensors," *Conference on Information Sciences and Systems, Johns Hopkins University*, March 2009.
14. T. Filler and **J. Fridrich**, "Complete Characterization of Perfectly Secure Stegosystems with Mutually Independent Embedding Operation," *Proc. IEEE ICASSP*, April 19-24, 2009 (Filler – graduate student co-author).
15. M. Goljan, T. Filler, and **J. Fridrich**, "Camera Identification – Large Scale Test," *Proc. SPIE, Electronic Imaging, Security and Forensics of Multimedia Contents XI*, San Jose, CA, January 18–22, pp. 0I 1–0I 12, 2009 (Filler – graduate student co-author).
16. T. Pevný, **J. Fridrich**, and A. D. Ker, "From Blind to Quantitative Steganalysis," *Proc. SPIE, Electronic Imaging, Security and Forensics of Multimedia Contents XI*, San Jose, CA, January 18–22, pp. 0C 1–0C 14, 2009 (Pevny – graduate student co-author)
17. T. Filler, **J. Fridrich**, and A. D. Ker, "The Square Root Law of Steganographic Capacity for Markov Covers," *Proc. SPIE, Electronic Imaging, Security and Forensics of Multimedia Contents XI*, San Jose, CA, January 18–22, pp. 08 1–08 11, 2009 (Filler – graduate student co-author).
18. T. Filler and **J. Fridrich**, "Using Sensor Pattern Noise for Camera Model Identification," *Proc. ICIP' 08*, San Diego, CA, October 12–15, 2008 (Filler – graduate student co-author).
19. A. D. Ker, T. Pevný, J. Kodovský, and **J. Fridrich**, "The Square Root Law of Steganographic Capacity," *Proc. ACM Multimedia and Security Workshop*, Oxford, UK, September 22–23, pp. 107–116, 2008 (Pevny, Kodovsky – graduate student co-authors).
20. J. Kodovský, and **J. Fridrich**, "On Completeness of Feature Spaces in Steganalysis," *Proc. ACM Multimedia and Security Workshop*, Oxford, UK, September 22–23, pp. 123–132, 2008 (Kodovsky – graduate student co-author).
21. T. Pevný and **J. Fridrich**, "Novelty Detection in Blind Steganalysis," *Proc. ACM Multimedia and Security Workshop*, Oxford, UK, September 22–23, pp. 167–176, 2008 (Pevny – graduate student co-author).
22. **D. Klotzkin**, Peter G. Goetz, William S. Rabinovich, Mike S. Ferraro, Rita Mahon, Steven C. Binari, "Integrated Angle-of-Arrival Sensing and Simultaneous Bidirectional Communication Using a Cat's eye Modulating Retroreflector". Proceedings of *Conference on Lasers and Electro-Optics (CLEO)*, Baltimore, MD June 2009.
23. Yaling Zhou, Supriya Sridhar, Kailash Mishra, Ronald Daubauch, Richard Garner and **D. Klotzkin**, "Fabrication of Tungsten Photonic Crystals for High Efficacy Incandescent Light Emitters", Proceedings of *IEEE Nano2008*, Arlington, TX, August, 2008.
24. **X. Li**, "Efficient Algorithm for Hop Optimization in Multi-Hop Ad Hoc Wireless Networks," *2008 ICST Second International Conference on Networks for Grid Applications and Workshops -- Wireless Grids*, Beijing, China, October 8-10, 2008.
25. **X. Li** and J. Hwu, "A Frequency Hopping Spread Spectrum Transmission Scheme for Uncoordinated Cognitive Radios," *ICASSP'09*, Taipei, Taiwan, April 2009.

26. **V. Nikulin**, Rahul Khandekar, and Zhao Liu, "Holographic Interferometry for Misalignment Measurements in Photonic packaging Applications: Practical Enhancements of the Approach," Poster presentation given to *IEEC TAB*, March 2009.
27. Jingyi Zhang, **Q. Wu**, **Q. Qiu**, "Bus Encoding for Simultaneous Delay and Energy Optimization," *International Symposium on Low Power Electronics and Design*, August 2008.
28. Shaobo Liu, **Q. Qiu**, **Q. Wu**, "A Probabilistic Technique for Full-chip Leakage Estimation," *International Symposium on Low Power Electronics and Design*, August 2008.
29. **Q. Wu**, Prakash Mukre, Richard Linderman, Tom Renz, Daniel Burns, Michael Moore, **Q. Qiu**, "Performance Optimization for Pattern Recognition using Associative Neural Memory," *IEEE International Conference on Multimedia & Expo*, June 2008.
30. **Q. Qiu**, Daniel Burns, Michael Moore, Richard Linderman, Thomas Renz, and **Q. Wu**, "Accelerating Cogent Confabulation: an Exploration in the Architecture Design Space," *International Joint Conference on Neural Networks and IEEE World Congress on Computational Intelligence*, June 2008.
31. G. Tokhtabayev, **V. A. Skormin** and A. M. Dolgikh, "Detection of Worm Propagation Engines in the System Call Domain using Colored Petri Nets," *27th IEEE International Performance Computing and Communications Conference (IPCCC)*, Austin, TX, December 2008.
32. N. Nwanze, **D. Summerville**, "Detection of Anomalous Network Packets using Lightweight Stateless Payload Inspection," *Proc. of the Fourth IEEE LCN Workshop on Network Security (WNS 2008)*, October 2008.
33. A. Basu, **C. M. Twigg**, S. Brink, P. Hasler, C. Petre, S. Ramakrishnan, S. Koziol, C. Schlottmann, "RASP 2.8: A New Generation of Floating-gate based Field Programmable Analog Array," *IEEE Custom Integrated Circuits Conference*, pp. 213-216, September 2008.
34. B. P. Degnan, P. Hasler, and **C. M. Twigg**, "Trapped Charge Characterization and Removal on Floating-Gate Transistors," *IEEE Midwest Symposium on Circuits and Systems*, pp. 617-620, August 2008.
35. **C. R. Westgate**, Pao-Lo Liu, and Wendy Tang, "A Fully Online Bachelor of Electrical Engineering Degree," *38th Annual Frontiers in Education Conference*, IEEE Catalog Number CFP08FIE-CDR, October 2008.
36. J. Metzler, **N. E. Wu**, "A Simulation Study of a Reconfigurable Database," *World Congress, International Federation of Automatic Control*, July 2008.
37. H.V. Vargas, **N. E. Wu**, R. Miles, and J. Qu, "Robust Control Design for Resonance Damping of a Directional Microphone," *World Congress, International Federation of Automatic Control*, July 2008.
38. **N. E. Wu** and Y. Guo, "Robust Tasking of Airborne Sensing Nodes for Network Availability," *World Congress, International Federation of Automatic Control*, July 2008.
39. Y. Zhang and **N. E. Wu**, "Fault Detection and Isolation Applied to a Ship Propulsion Benchmark," *World Congress, International Federation of Automatic Control*, July 2008.

40. J. Qu, R. Miles, **N. E. Wu**, “*Robust Controller Design to Achieve Active Damping of a MEMS Microphone*,” ASME Conference on Control of Dynamic Systems, October 2008.
41. K. Huang and **N. E. Wu**, “Verification of a small signal probing concept on a nonlinear model for longitudinal motion of a Boeing 747,” 2009 American Control Conference, June 2009.
42. K. Huang, **N. E. Wu**, **M. L. Fowler**, “Optimal Guidance of Unmanned Aerial Vehicles for Emitter Location,” *Proc. World Congress of International Federation of Automatic Control*, July 2008.
43. **N. E. Wu**, J.Y. Shin, and K. Huang, “Sensor Maneuver Design for Microwave Source Localization,” *2009 American Control Conference*, June 2009.
44. **Q. Wu**, “An Adaptive Scheduling and Voltage/Frequency Selection Algorithm for Real-time Energy Harvesting Systems,” *2009 Design Automation Conference*, July 2009.
45. **S. A. Zahorian**, R. Belohlavek, S. Craver, R. McGrann, L. Yu, “Work in Progress - bringing SOCRATES into Computer-Assisted Instruction,” *Frontiers in Education Conference, 2008. FIE 2008. 38th Annual*, Saratoga Springs, NY, October 2008.
46. Hongbing Hu, **S. A. Zahorian**, “A Neural Network Based Nonlinear Feature Transformation for Speech Recognition,” *Proc. Interspeech*, pp.1533-1536, 2008.

Presentations/Lectures/Exhibitions:

1. **Y. Chen**, “LAVI: A Location-Aware Virtual Infrastructure for Mobile Ad hoc Networks”, CoCo Technical Seminar, SUNY-Binghamton, March 2009.
2. **X. Li**, “Advanced RF Wireless Information Assurance, “ *AFRL SBIR Phase II*, May 2009.
3. **V. Nikulin**, “The Optical Tracking System for Quantum Communication Terminals,” *Presentation given to AFRL researchers*, July 2008.
4. **V. Nikulin**, “Adaptive Control Systems,” lectures given to *Ph.D. students of the Eurasian National University*.
5. **V. Nikulin**, R. Khandekar, and Z. Liu, “Holographic Interferometry for Misalignment Measurements in Photonic Packaging Applications: Practical Enhancements of the Approach,” final presentation given to *IEEC TAB*, June 2009.
6. **A. Rastogi**, “Nanotechnology: New Horizons for the Next Generation Photovoltaic Solar Electricity,” Materials Science Seminar Series Lecture, *Institute of Materials Research, (IMR) Binghamton University*, September 2008.
7. **A. Rastogi**, “New Horizons for the Next Generation Solar Photovoltaic Energy Conversion and Storage Technologies,” Keynote Lecture given at the Second International Conference on Thermal Issues in Emerging Technologies Theory and Application - ThETA 2, Cairo, Egypt, December 17-20, 2008.
8. **A. Rastogi**, “Emerging Nanotechnology Approaches for Solar Photovoltaic Cells Over Flexible Platform,” an Invited Lecture given at the 2008 Electronics Packaging Symposium, “National Trends in Small Scale Systems and Microelectronics Packaging” at the GE Global Research Center, August 2008.

9. **S. A. Zahorian** and J. Wu, “ Variable Resolution Spectral/Temporal Features for Automatic Speech Recognition,” *156th Meeting of the Acoustical Society of America*, Vol. 124, No. 4, Pt 2, pp. 2577, Miami , Florida