

ECE Faculty Publication List (July 1, 2009 – June 30, 2010)

Books/Editor: 6

Journal Articles: 18

Conference Presentations & Publications: 44

Presentations/Lectures/Exhibitions: 19

Books/Book Chapters/Editor:

1. **Y. Chen**, J. Feng, W.-S. Ku, P. Liu, and Z. Su, "Secure Distributed Data Storage in Cloud Computing," Cloud Computing, edited by R. Buyya, J. Broberg, and A. Goscinski, published by Wiley, Inc. New York, USA, 2010. (Book Chapter)
2. H. Chen, J. Feng, **Y. Chen**, and **D. Summerville**, "Securing Network Infrastructure Using Reconfigurable Hardware Devices," Security Engineering Techniques and Solutions for Information Systems: Management and Implementations, edited by N. Boudriga and M. Hamdi, published by Idea Group, Inc., ISBN 1615208038, March 2010. (Book Chapter)
3. **J. Fridrich**, "Steganography in Digital Media: Principles, Algorithms, and Applications," Cambridge University Press, November 2009.
4. **V. Skormin**, "Introduction to Automatic Control", Vol. 1, Linus Publications, Inc, ISBN 1-60797-090-2.
5. **D. Summerville**, "Embedded Systems Interfacing for Engineers Using the Freescale HCS08 Microcontroller: Part II- Hardware Interfacing", published by Morgan & Claypool Publishers, ISBN 9781608450060, 2009.
6. T. R. Collins and **C. M. Twigg**, "Digital Design Laboratory Manual," 2nd Edition, Kendall/Hunt, 2009.

Journal Articles:

1. H. Chen, **Y. Chen**, and **D. Summerville**, "A Survey on the Application of FPGAs for Network Infrastructure Security," *IEEE Communications Surveys and Tutorial*, 2010.
2. M. Chen and **M. L. Fowler**, "Data Compression for Multiple Parameter Estimation with Application to Emitter Location Systems," *IEEE Transactions on Aerospace and Electronic Systems*, Vol. 46, No. 1, pp. 308-322, January 2010.
3. T. Pevný, P. Bas, and **J. Fridrich**, "Steganalysis by Subtractive Pixel Adjacency Matrix," *IEEE Trans. on Info. Forensics and Security*, Vol. 5, No. 2, pp. 215-224, 2010.
4. M. Goljan, **J. Fridrich**, and Mo Chen, "Sensor Noise Camera Identification: Countering Counter-Forensics," *Proc. SPIE, Electronic Imaging, Media Forensics and Security XII*, San Jose, CA, January 17-21, pp. 0S-01–0S-12, 2010.

5. T. Pevný, A. Ker, and **J. Fridrich**, "From Blind to Quantitative Steganalysis," *IEEE Trans. on Info. Forensics and Security*, 2010.
6. J. Kodovský and **J. Fridrich**, "Quantitative Structural Steganalysis of Jsteg," *IEEE Trans. on Info. Forensics and Security*, 2010.
7. T. Filler and **J. Fridrich**, "Gibbs construction in Steganography," *IEEE Trans. on Info. Forensics and Security*, 2010.
8. Y. Zhou, S. Sridhar, K. Mishra, **D. Klotzkin**, "Thermal Compression Wafer Bonding of Tungsten Applied to Fabrication of Small-Period Tungsten Woodpile Structures," *Materials Letters*, Vol. 64, pp. 1222-1225.
9. A. Banerjee, Y. Shuai, R. Dixit, **D. Klotzkin**, I. Papuatsky, "Concentration Dependence of Fluorescence Signal in a Microfluidic Fluorescence Detector," *Journal of Luminescence*, Vol. 130, pp. 1095-1100.
10. V. Ranatunga, **D. Klotzkin**, "Modeling of Thermal Residual Stresses During Field-Assisted Anodic Bonding of Optical Fiber to SI V-Groove for Optoelectronic Packaging," to appear in *International Journal of Modelling and Simulation*.
11. J. Chen, **X. Li**, B. Chen and F. Cai, "Discussion on Cognitive Radio Applications," *Communication Technology (Chinese)*, Vol. 42, No. 10, pp. 38-40, October 2009.
12. **V. Nikulin**, R. Khandekar, and J. Sofka, "Laser Communication System with Acousto-Optic Tracking and Modulation: An Experimental Study," *Optical Engineering*, Vol. 48, No. 12, December 2009.
13. N.S. Negi, D. R. Sharma and **A.C. Rastogi**, "Ferroelectric Properties And Fatigue Behavior Of $(\text{Pb}_{0.5}\text{Ca}_{0.5})\text{TiO}_3$ Thin Films," *Integrated Ferroelectrics*, Vol. 107, Issue 1, pp. 69-82, 2009.
14. **C. M. Twigg** and P. Hasler, "Configurable Analog Signal Processing," *Digital Signal Processing*, Vol. 19, No. 6, pp. 904-922, December 2009.
15. U.C. Hasar, **C.R. Westgate**, and M. Ertugrul, "Permittivity Determination of Liquid Materials Using Waveguide Measurements for Industrial Applications," *IET Microwaves, Antennas, and Propagation*, pp. 1- 12, 2009.
16. **N.E. Wu**, M. Ruschmann, and J. Huang, "Probing the NASA Generic Transport Aircraft in Real-Time for Health Monitoring," to appear in *IEEE Trans. Control Systems Technology*.
17. **N.E. Wu**, and M. Ruschmann, "Fault-Tolerant Control of a Hidden Markov Process with Application to Resource Allocation in an Air Operation," to appear in Special Issue on Fault Detection, Diagnosis and Tolerant Control, *Journal of Systems Engineering and Electronics*.
18. R.N. Miles, Q.T. Su, W. Cui, D. Homentcovschi, and **N.E. Wu**, "Analysis and Design of a MEMS Directional Microphone Diaphragm with Active Q Control," *Journal of the Acoustical Society of America*, Vol. 127, pp. 1944, 2010.

Conference Presentations & Publications:

1. **Y. Chen**, W.-S. Ku, K. Sakai, and C. DeCruze, "A Novel DDoS Attack Defending Framework with Minimized Bilateral Damages," *7th IEEE Consumer Communications and Networking Conference - Security for CE Communications (CCNC'10)*, Las Vegas, Nevada, USA, January 9 - 12, 2010.
2. J. Feng, **Y. Chen**, and P. Liu, "Bridging the Missing Link of Cloud Data Storage Security in AWS," *7th IEEE Consumer Communications and Networking Conference - Security for CE Communications (CCNC'10, Short Position Paper)*, Las Vegas, Nevada, USA, January 9-12, 2010.
3. J. Feng, **Y. Chen**, W.-S. Ku, and Z. Su, "D-DOG: Securing Sensitive Data in Distributed Storage Space by Data Division and Out-of-order Keystream Generation," *2010 IEEE International Conference on Communications - Communication and Information System Security Symposium (ICC'10 CISS)*, Cape Town, South Africa, May 23-27, 2010.
4. P. Gasti and **Y. Chen**, "Breaking and Fixing the Self-Encryption Scheme for Data Security in Mobile Devices," *18th Euromicro International Conference on Parallel, Distributed and Network-based Processing (PDP 2010) – Special Session "Security in Networked and Distributed Systems"* (SNDS 2010), Pisa, Italy, February 17 - 19, 2010.
5. Z. Su, Z. Zhang, and **Y. Chen**, "Performance Evaluation of a Novel Caching Algorithm for Scalable Image Contents," *2nd International Symposium on Intelligent Informatics (ISII 2009)*, Qinhuangdao, China, September 13-15, 2009.
6. H. Chen, D. Summerville, and **Y. Chen**, "Two-Stage Decomposition of SNORT Rules towards Efficient Hardware Implementation," *7th International Workshop on Design of Reliable Communication Networks (DRCN 2009)*, Washington, D.C., USA, October 25-28, 2009.
7. J. Feng, **Y. Chen**, **D. Summerville**, "EEO: an Efficient MDS-like RAID-6 Code for Parallel Implementation," *33rd IEEE Sarnoff Symposium*, Princeton, NJ, USA, April 12-14, 2010.
8. I. Atakli, **Y. Chen**, **Q. Wu**, and **S.A. Craver**, "BLINK: Pixel-Domain Encryption for Secure Document Management," *the 11th ACM Workshop on Multimedia and Security (MMSEC 2009)*, Princeton, New Jersey, USA, pp 171-175, September 7 - 8, 2009.
9. E. Li and **S.A. Craver**, "A Supraliminal Channel in a Wireless Phone Application," *11th ACM Workshop on Multimedia and Security (MMSEC 2009)*, Princeton, New Jersey, USA, pp 151-154, September 7-8, 2009.
10. J. Yu and **S.A. Craver**, "Reverse-Engineering a Watermark Detector Based on a More Precise Model," *Proc. SPIE*, Vol. 7542, 75420C, doi:10.1117/12.839161, January 27, 2010.

11. **S.A. Craver** and J. Yu, "Media Forensics and Security," *Proceedings of the SPIE*, Vol. 7541, pp. 754103-754103-6, 2010.
12. R. Ren and **M. L. Fowler**, "An LBI Based Emitter Location Estimator with Platform Trajectory Optimality," *43rd Asilomar Conference on Signals, Systems, and Computers*, November 1-4, 2009.
13. L. Huie and **M. L. Fowler**, "Emitter Location in the Presence of Information Injection," *Conference on Information Sciences and Systems*, Princeton University, March 2010.
14. T. Filler and **J. Fridrich**, "Fisher Information Determines Capacity of E-secure Steganography," *11th Information Hiding Workshop*, Darmstadt, Germany, LNCS Vol. 5806, Springer-Verlag, pp. 31-47, June 7-10, 2009.
15. T. Filler, J. Judas, and **J. Fridrich**, "Minimizing Embedding Impact in Steganography Using Trellis-Coded Quantization," *Proc. SPIE, Electronic Imaging, Media Forensics and Security XII*, San Jose, CA, pp. 05-01-05-14, January 17-21, 2010.
16. J. Kodovský, and **J. Fridrich**, "Calibration Revisited," *Proc. ACM Multimedia and Security Workshop*, Princeton, NJ, pp. 63-74, September 7-8, 2009.
17. T. Pevný, P. Bas, and **J. Fridrich**, "Steganalysis by Subtractive Pixel Adjacency Matrix," *Proc. ACM Multimedia and Security Workshop*, Princeton, NJ, pp. 75-84, September 7-8, 2009.
18. M. Kirchner and **J. Fridrich**, "On Detection of Median Filtering in Images," *Proc. SPIE, Electronic Imaging, Media Forensics and Security XII*, San Jose, CA, pp. 10-01-10-12, January 17-21, 2010.
19. J. Kodovský and **J. Fridrich**, "Quantitative Steganalysis of LSB Embedding in JPEG Domain," *ACM Multimedia & Security Workshop*, Rome, Italy, September 9-10, 2010.
20. M. Goljan, **J. Fridrich**, and T. Filler, "Managing a Large Database of Camera Fingerprints," *Proc. SPIE, Electronic Imaging, Media Forensics and Security XII*, San Jose, CA, pp. 08-01-08-12, January 17-21, 2010.
21. J. Kodovský, T. Pevný, and **J. Fridrich**, "Modern Steganalysis Can Detect YASS," *Proc. SPIE, Electronic Imaging, Media Forensics and Security XII*, San Jose, CA, pp. 02-01-02-11, January 17-21, 2010.
22. T. Filler and **J. Fridrich**, "Wet ZZW Construction," *Proc. IEEE WIFS'09*, London, UK, December 6-9, 2009.
23. T. Filler and **J. Fridrich**, "Steganography Using Gibbs Random Fields," *ACM Multimedia & Security Workshop*, Rome, Italy, September 9-10, 2010.
24. C. Xiong and **X. Li**, "Minimum Cost Optimization of Multicast Wireless Networks with Network Coding," *IEEE CISS'2010*, Princeton University, Princeton, NJ, March 2010.
25. **V. Nikulin**, Z. Liu, R. Khandekar, J. Yermekbayeva, and A. Amirov, "Application of Holographic Interferometry to Misalignment Measurements in Packaging Applications," *Proc. SPIE, Practical Holography XXIV: Materials and Applications*, San Francisco, CA, Vol. 7619, January 23-28, 2010.

26. **V. Nikulin**, J. Malowicki, R. Khandekar, V. Skormin, and D. Legare, "Experimental Demonstration of a Retro-Reflective Laser Communication Link on a Mobile Platform," *Proc. SPIE, Free-Space Laser Communication Technologies XXII*, San Francisco, CA, Vol. 7587, January 23-28, 2010.
27. Z. Liu, **V. Nikulin**, and R. Khandekar, "Modeling and Measurements of the Effects of Atmospheric Turbulence and Platform Vibration on Free-Space Laser Communication," *Proc. SPIE, Free-Space Laser Communication Technologies XXII*, San Francisco, CA, Vol. 7587, January 23-28, 2010.
28. R. Thankalekshmi, **Q. Qiu**, and K. L. Man, "Statistical Analysis and Structure Optimization of Large Photovoltaic Module," *Proc. of DATICS-FutureTech*, 2010.
29. S. Liu, Q. Wu and **Q. Qiu**, "An Adaptive Scheduling and Voltage/Frequency Selection Algorithm for Real-time Energy Harvesting Systems," *Proc. Of 2009 Design Automation Conference*, July, 2009.
30. Y. Tan, W. Liu and **Q. Qiu**, "Adaptive Power Management Using Reinforcement Learning," *Proc. Of 2009 International Conference on Computer Aided Design*, November, 2009.
31. W. Liu, Y. Tan and **Q. Qiu**, "Enhanced Q-Learning Algorithm for Dynamic Power Management with Performance Constraint," *Proc. Of 2010 Design, Automation & Test*, Europe, March, 2010.
32. S. Liu, J. Zhang, Q. Wu and **Q. Qiu**, "Thermal-Aware Job Allocation and Scheduling for Three Dimensional Chip Multiprocessor," *Proc. Of International Symposium on Quality Electronic Design*, March, 2010.
33. Y. Ge, P. Malani, and **Q. Qiu**, "Distributed Task Migration for Thermal Management in Many-Core Systems," *Proc. Of 2010 Design Automation Conference*, June, 2010.
34. H. Chen, **D. Summerville**, and **Y. Chen**, "Two-Stage Decomposition of SNORT Rules towards Efficient Hardware Implementation," *7th International Workshop on Design of Reliable Communication Networks (DRCN 2009)*, Washington, D.C., USA, October 25-28, 2009.
35. N. Nwanze, S. Kim, and **D. Summerville**, "Payload Modeling for Network Intrusion Detection Systems," *Proceedings of the IEEE Military Communications Conference (MILCOM)*, Boston, MA, October 18-21, 2009.
36. S.-Y. Peng, G. Gurn, **C. M. Twigg**, M. S. Qureshi, A. Basu, S. Brink, P. E. Hasler, and F. L. Degertekin, "A Large-Scale Reconfigurable Smart Sensory Chip," *IEEE Proceedings of the International Symposium on Circuits and Systems*, pp. 2145-2148, 2009.
37. J. Huang and **N. E. Wu**, "Validation of a Small Signal Probing Concept for Prognosis on a Nonlinear Model for Longitudinal Motion of a Boeing-747," *American Control Conference*, St. Louis, Missouri, June 10-12, 2009.

38. **N. E. Wu**, J-Y Shin, and K. Huang, "Sensor Maneuver Design for Microwave Source Localization," *American Control Conference*, St. Louis, Missouri, June 10-12, 2009.
39. M. C. Ruschmann, J. Huang, and **N. E. Wu**, "Probing the NASA Generic Transport Aircraft in Real-Time for Health Monitoring," *IEEE Conference on Decision and Control*, Shanghai, China, December 16-18, 2009.
40. K. Huang, and **N. E. Wu**, "Change Detection for the NASA Generic Transport Aircraft Model," *IFAC Symposium on Safeprocess*, Barcelona, Spain, June 30-July 3, 2009.
41. F. Caliskan, Y. Zhang, **N. E. Wu**, and J. Y. Shin, "Estimation of Actuator Fault Parameters in a Nonlinear Boeing 747 Model Using a Linear Two-Stage Kalman Filter," *IFAC Symposium on Safeprocess*, Barcelona, Spain, June 30-July 3, 2009.
42. **S. A. Zahorian**, H. Hu, Z. Chen, and J. Wu, "Spectral and Temporal Modulation Features for Phonetic Recognition," *Proc. Interspeech*, Brighton, UK, pp.1071-1074, 2009.
43. H. Hu and **S. A. Zahorian**, "Neural Network Based Nonlinear Discriminant Analysis for Speech Recognition," *ANNIE*, St. Louis, MO, pp.539-546, 2009.
44. H. Hu and **S. A. Zahorian**, "Dimensionality Reduction Methods for HMM Phonetic Recognition," *ICASSP*, Dallas, TX, pp.4854-4857, 2010.

Presentations/Lectures/Exhibitions:

1. **Y. Chen**, "Breaking and Fixing the Self-Encryption Scheme for Data Security in Mobile Devices," SNDS, Pisa, Italy, 2010.
2. **Y. Chen**, "Before Self-Awareness, Let's try Anomaly-Awareness," GERIS'09, Binghamton, NY, 2009.
3. **Y. Chen**, "Two-Stage Decomposition of SNORT Rules towards Efficient Hardware Implementation," DRCN, Washington D.C., 2009.
4. **S. Desu**, "Solar Cell Technologies-2010 and beyond," *Spire Corporation*, Boston, MA.
5. **S. Desu**, "Efficiency Improvements in Solar Cells," *Konarka*, Lowell, MA.
6. **S. Desu**, "Integration Issues of Photovoltaic Devices," *Rochester Solar Technologies*, Victor, NY.
7. **S. Desu**, "High Energy Density Supercapacitors," *ONR Capacitor Review*, Charleston, SC.
8. **S. Desu**, "Large Area Processing of Supercapacitors," *Paper Battery Company*, Troy, NY.
9. **D. Klotzkin**, Peter G. Goetz, William S. Rabinovich, Mike S. Ferraro, Rita Mahon, and 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.

10. B. Hart and **X. Li**, "Advanced Radio Frequency Technology for Wireless Network Security," *AFRL/IF*, Rome, NY, Funded Project Progress and Final Report, April 2010.
11. **X. Li** and W. Cadeau, "Anti-Jamming Cognitive Radio Networks," *AFRL/RIGF*, Rome, NY, VFRP Research Proposal, May 2010.
12. **V. Nikulin**, "A Novel Holographic Interferometry Approach to Measuring In-Plane and Out-of-Plane Misalignments and Deformations in Packaging Applications," presentation to IEEC Technical Advisory board members, Binghamton, NY.
13. **V. Nikulin**, "Holographic Interferometry for Misalignment Measurements in Photonic Packaging Applications: Practical Enhancements of the Approach," Final presentation to IEEC Technical Advisory board members, Binghamton, NY.
14. **A. Rastogi**, "Advanced Research in Photovoltaic Solar Electricity Generation: Opportunities in Academia and Industry," 2009 American Society of Mechanical Engineers (ASME), Mechanical Engineering Congress, Orlando, Florida, November 13-19, 2009.
15. A. Tokhtabayev, **V. Skormin**, and A. Dolgikh, "Detection of Specific Semantic Functionalities, Such as Self-Replication Mechanism, in Malware Using Colored Petri Nets," *Proc. SAM'09*, Las Vegas, NV, July, 2009.
16. A. Tokhtabayev, **V. Skormin**, and A. Dolgikh, "Expressive, Efficient and Obfuscation Resilient Behavior Based IDS" *ESORICS 2010*, Athens, September, 2010.
17. A. Tokhtabayev, **V. Skormin**, and A. Dolgikh "Behavioral Obfuscation in Malware and its Mitigation Via Signature Generalization", *International Conference on Security and Management, SAM'10*, Las Vegas, NV, 2010.
18. A. Tokhtabayev, **V. Skormin**, and A. Dolgikh, "Dynamic, Resilient Detection of Complex Malicious Functionalities in the System Call Domain" *MILCOM 2010*, San Jose, CA.
19. **V. Nikulin**, J. Malowicki, R. Khandekar, **V. Skormin**, and D. Legare, "Experimental Demonstration of a Retro-Reflective Laser Communication Link on a Mobile Platform," *Proc. SPIE, Free-Space Laser Communication Technologies XXII*, San Francisco, CA, Vol. 7587, January 23-28, 2010.