ARO Workshop on Digital Forensics

Arlington, VA, USA
September 10 - 11, 2009

Thursday, September 10, 2009

Registration, Check-in, and Breakfast: (7:45-8:30am)	
Opening (8:30-8:45): **Cliff Wang, Army Research Office** **Yong Guan, Iowa State University**	

Keynote Talk (8:45-10:00): Steven D. Shirley, Director of the DoD Cyber Crime Center

Morning Break (10:00-10:15)

Session 1 (10:15-12:00): **Network Forensics**
Chair: Deborah Frincke (US DoE Pacific Northwest National Laboratory)

1	Network Forensics: Challenges and Research Problems	Yong Guan and Doug Jacobson (Iowa State University)
2	Challenges to Digital Forensics Posed by Mobile Systems and Ubiquitous Computing	Brian Levine and Dennis Goeckel (University of Massachusetts), Ping Ji (City University of New York)
3	Network Forensics on a Global Scale	Nikita Borisov (University of Illinois at Urbana-Champaign)
4	Forensic Analysis Techniques for Tracing Anonymous Cyber Criminals	Xinwen Fu (University of Massachusetts at Lowell) and Wei Zhao (University of Macau)
5	Tracking the Flow of Sensitive Data with Traffic Tainting	Nick Feamster (Georgia Institute of Technology)

Lunch (12:00-13:00)

Session 2 (13:00-13:45): **Network and Embedded Device Forensics**
Chair: Ken Shotting (DoD)

1	An Accurate and Efficient Email Traceback Framework for E-Crime Investigation	Zhenhai Duan (Florida State University) and Yingfei Dong (University of Hawaii)
2	Invasive Forensic Techniques for Embedded Devices: Sophisticated Credit Card Skimmers and Burned Cell Phones	Sujeet Shenoi (University of Tulsa)

Session 3 (13:45-14:45):: Evidence Modeling and Principles
Chair: Sujeet Shenoi (University of Tulsa)

1	Digital Evidence as a Narrative	Mark Pollitt (University of Central Florida)
2	Model-Driven Systematic Approaches to Digital Forensic Engineering	Ming-Yuh Huang and Bill Nelson (Boeing Corporation)
3	Considering Tool Validation and Error in Legal Admissibility	Robert Erbacher (Utah State University)

Afternoon Break (14:45-15:00)

Session 4 (15:00-16:20): Forensic Analysis Methodology and Visualization
Chair: Michael Losavio (University of Louisville)

1	The Importance of Developing Visualization Capabilities for Digital Forensics	Kara Nance (University of Alaska Fairbanks)
2	Digital Forensics for Web Databases	Nan Zhang (George Washington University) and Gautam Das (University of Texas at Arlington)
3	Performance as a First-Class Concern in Digital Forensic Tool Design	Vassil Roussev (University of New Orleans)
4	Novel Tools for Experimental Digital Forensics	Sudhir Aggarwal (Florida State University)

Session 5 (16:20-17:20): Multimedia Forensics and Device Fingerprinting **Chair:** Nasir Memon (New York University)		
1	Digital Forensics: Framework and Approaches – Signal Processing Perspective	Min Wu (University of Maryland)
2	The Forensics of "Things"	Ed Delp (Purdue University)
3	Anti-Forensic Signal Processing	Matthew Stamm and K.J. Ray Liu (University of Maryland)

End of the day (17:30)

Friday, September 11, 2009

Registration, Check-in, and Breakfast: (8:00-8:45am)	

Keynote Talk (8:45-9:45): Thomas G. Motta, Section Chief of Digital Evidence, FBI

Morning Break (9:45-10:00)

Session 6 (10:00-12:00): Media Imaging and File System Analysis **Chair:** Ming-Yuh Huang (Boeing Corporation)	
1	File Carving
	Nasir Memon (Polytechnic Institute of NYU)
2	Embedded Forensic Information
	Michael Black and Alec Yasinsac (University of South Alabama)
3	What Digital Forensics Can Learn From Astronomy
	Frank Adelstein (ATC-NY)
4	Towards Proactive Forensic Evidentiary Collection
	Clay Shields (Georgetown University)
5	Hardware-supported Virtualization Technologies for Transparent Monitoring/Analysis
	Wenke Lee (Georgia Institute of Technology)
6	The Implications of Commodity Virtualization for Digital Forensics
	Brian Hay (University of Alaska Fairbanks)

Lunch (12:00-13:00): (Provided)

Session 7 (13:00-14:15): Panel/talks from AFRL, ARO, CID, DHS, NIJ, NIST, NSA
Coordinator: Cliff Wang (ARO)
Panelists: Shane Cullen (DHS), Michael Hass (AFRL), Robert Nissen (NSA), Martin Novak (NIJ), Charles Romine (NIST), and David Shaver (CID).

Afternoon Break (14:15-14:30)

Session 8 (14:30-15:30): Parallel Research Roadmap Discussion
Coordinators: Yong Guan (Iowa State University) and Cliff Wang (ARO)

Session 9 (15:30-15:55): Group Briefings and Recommendations

Closing (15:55-16:00): Cliff Wang and Yong Guan