

Annual ADFSL Conference on Digital Forensics, Security and Law

2017 Proceedings

Front Matter

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Conference on Digital Forensics, Security and Law

Daytona Beach, Florida May 15-16, 2017

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ADFSL

Association of Digital Forensics, Security and Law

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^{*} Author Presenting

Bloomsburg, USA

University at Albany, SUNY

USA

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ADFSL 2017 Conference Committee

The 2017 ADFSL Conference on Digital Forensics, Security and Law is pleased to have the following as chair of the conference and chair of the conference program committee:

Gary Kessler gary.kessler@erau.edu Conference Chair Embry-Riddle Aeronautical University Florida, USA

Jigang Liu jigang.liu@metrostate.edu **Program Chair** Metropolitan State University Minnesota, USA

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The 2017ADFSL Conference on Digital Forensics, Security and Law is pleased to have the following as members of the program committee:

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Diane Barrett Ezhil S. Kalaimannan, Iain Sutherland University of West Florida Bloomsburg University of Noroff University College

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United Arab Emirates India

Sanjay Goel John Riley

Bloomsburg University

Pennsylvania, USA

ADFSL 2017 Conference Program Schedule

MONDAY – MAY 15

8:00 AM Conference Registration

8:00 AM - 8:55 AM

9:00 AM **Welcoming Remarks**

Karen F. Gaines, Ph.D.

Professor and Dean, College of Arts and Sciences

Embry-Riddle Aeronautical University

9:00 AM - 9:15 AM

Introductions 9:15 AM

> Glenn S. Dardick CCE, CCFP, Ph.D., Associate Professor of Cybersecurity, Embry-Riddle Aeronautical University, Director of the Association of Digital Forensics, Security and Law and Editor-in-Chief of the Journal of Digital Forensics, Security and Law

9:15 AM - 9:30 AM

9:30 AM Morning Session 1- Keynote Speaker: Anni R. Coden

Anni R. Coden Ph.D., IBM Systems G Anomaly Detection Solution

9:30 AM - 10:10 AM

10:10 AM **Break**

10:10 AM - 10:25 AM

10:25 AM Morning Session 2- Botnet Detection and Prevention

Diane Barrett, Session Chair, Bloomsburg University of Pennsylvania

Arsh Arora, University of Alabama, Birmingham - Kelihos Botnet: A Never-Ending Saga Max Gannon, University of Alabama, Birmingham - An Accidental Discovery of IoT Botnets and a Method for Investigating Them With a Custom Lua Dissector

10:25 AM - 11:55 PM

12:00 PM Lunch

12:00 PM - 1:00 PM

1:00 PM Afternoon Session 1- Rootkit and Network Security and Forensics

Jigang Liu. Session Chair. Metropolitan State University

Igor Korkin, Independent Researchers, Moscow, Russia - Detect Kernel-Mode Rootkits via Real Time Logging & Controlling Memory Access

Irvin Homem, Department of Computer and Systems Sciences, Stockholm University-Harnessing Predictive Models for Assisting Network Forensic Investigations of DNS Tunnels

1:00 PM - 2:30 PM

2:30 PM **Break**

2:30 PM - 2:45 PM

2:45 PM Afternoon Session 2 - Image Forensics

Joseph Schwerha IV, JD. Session Chair, Director, Entrepreneurial Leadership Center, Associate Professor of Business Law & Technology, Department of Business &

Economics, California University of Pennsylvania

Prithviraj Sengupta, National Institute of Technology, Rourkela - Source Anonymization of Digital Images: A Counter-Forensic Attack on PRNU based Source Identification Techniques

Sean McKeown, Napier University- Fast Filtering of Known PNG Files Using Early File Features

2:45 PM - 4:15 PM

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ADFSL 2017 Conference Program Schedule

TUESDAY – MAY 16 (morning)

8:00 AM Conference Registration

8:00 AM - 8:25 AM

8:30 AM Tuesday Greeting

Glenn S. Dardick CCE, CCFP, Ph.D., Associate Professor of Cybersecurity, Embry-Riddle Aeronautical University, Director of the Association of Digital Forensics, Security and Law and Editor-in-Chief of the Journal of Digital Forensics, Security and Law

8:30 AM - 8:35 AM

Morning Session 1- Keynote Speaker: Benjamin Goldsmith

Benjamin Goldsmith, DHS Office of Cybersecurity & Communications Enterprise

Performance Management Office

8:35 AM - 9:15 AM

9:15 AM Morning Session 2- Legal Issues in Cybersecurity and Digital Forensics

Diane Barrett, Session Chair, Bloomsburg University of Pennsylvania

Peter R. Stephenson Ph.D., Independent Researcher in Cyber Jurisprudence - Defining

a Cyber Jurisprudence

Kathryn C. Seigfried-Spellar, Purdue University - Development of A Professional Code

of Ethics in Digital Forensics

9:15 AM - 10:45 PM

10:45 AM Break

8:35 AM

10:45 AM - 11:00 AM

11:00 AM Morning Session 3- File System Forensics

Philip Craiger Ph.D., CISSP, and CCFP, Session Chair

Fletcher Glancy, Oklahoma State University - Main Campus - Detecting Deception in

Asynchronous Text

James Jones, George Mason University - Understanding Deleted File Decay on

Removable Media Using Differential Analysis

11:00 AM - 12:30 AM

12:30 PM <u>Lunch</u>

12:30 PM - 1:30 PM

ADFSL 2017 Conference Program Schedule

TUESDAY - MAY 16 (afternoon)

1:30 PM Afternoon Session 1- Digital Forensic Challenges and Tool Selection

Ezhil Kalaimannan, Session Chair, University of West Florida

Antonio Losavio, University of Central Florida - Downstream Competence Challenges

and Legal/Ethical Risks in Digital Forensics

Umit Karabiyik, Sam Houston State University - Digital Forensics Tool Selection with

Multi-Armed Bandit Problem

1:30 PM - 3:00 PM

3:00 PM Break

3:00 PM - 3:15 PM

3:15 PM Afternoon Session 2- Cyber Investigation and Forensics

Glenn S. Dardick CCE, CCFP, Ph.D., Session Chair, Associate Professor of Cybersecurity, Embry-Riddle Aeronautical University, Director of the Association of Digital Forensics, Security and Law and Editor-in-Chief of the Journal of Digital

Forensics, Security and Law

Imani Palmer, University of Illinois at Urbana-Champaign - Exploring Digital Evidence

with Graph Theory

Hallstein Asheim Hansen, Norwegian Police - A New Method for Investigating Crimes

Against Children 3:15 PM - 4:45 PM

4:45 PM Conference Close

Glenn S. Dardick CCE, CCFP, Ph.D., Associate Professor of Cybersecurity, Embry-Riddle Aeronautical University, Director of the Association of Digital Forensics, Security and Law and Editor-in-Chief of the Journal of Digital Forensics, Security and Law

4:45 PM

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ADFSL 2017 Conference Keynote Speaker





Anni R. Coden, Ph.D. is currently the project manager and technical lead of the IBM Systems G Anomaly Detection Solution. Previously she led a project at IBM's T.J. Watson Research Center on Modeling and Simulation in a Smarter Cities environment, with a focus on Emergency Response Management. Anni also managed the Medical Text and Image Analysis group. The team had a long-term collaboration with the Mayo Clinic, worked with the Memorial Sloan-Kettering Cancer Center and was also involved with academic research.

Anni Coden joined IBM in 1981. Previously, she was a Researcher at the Massachusetts Institute of Technology from where she received her Ph.D. and M.S. in Computer Science. The received her M.S. in electrical engineering and her B.S. in mathematics from the Vienna University of Technology (Austria). Anni Coden has published in many areas such as theoretical computer science, computer vision, and computational linguistics and is the holder of multiple patents.

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