

**EXHIBIT 1**

## Curriculum Vitae of Stephen Michael Bunting

*Bunting Digital Forensics, LLC* • 33579 Blue Heron Drive • Lewes, DE 19958  
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### Summary of Experience

Mr. Bunting is an experienced digital forensics examiner and currently works as the Senior Manager of Services for SUMURI, LLC as an independent consultant and as CEO and Senior Forensic Consultant of Bunting Digital Forensics, LLC. Formerly Mr. Bunting was a Manager with Alvarez & Marsal (Sept 2012 to Feb 2013) and prior to that a Senior Forensic Consultant with Forward Discovery (Sept 2009 to Sept 2012). (Alvarez and Marsal acquired Forward Discovery in Sept 2012) His responsibilities with Bunting Digital Forensics, Alvarez & Marsal, and Forward Discovery include:

- Acquisition and forensic examination of digital media using industry standard forensics tools;
- Develop & instruct classes on Windows, Macintosh and Mobile Device Forensics;
- Develop & instruct classes on cyber investigations and related course work;
- Investigative consultation and digital forensics examinations in many areas including spoliation, theft of intellectual property, malware analysis, unlawful access of computer systems, theft of corporate resources, employee misuse of computer systems, Medicaid fraud, and support of various types of criminal investigations (prosecution only - no criminal defense work);
- Consult with clients and develop E-Discovery plans;
- Carry out electronic discovery processing from initial acquisition to final load file;
- Under sub-contract (multiple vendors) to the U.S. Department of State, develop & instruct various cyber-based anti-terrorism courses to international law enforcement agencies.
- Under Bunting Digital Forensics, instruct XRY Foundation, Intermediate, PinPoint, XAMN, and Kiosk Courses. Currently the only contract instructor for MSAB (XRY) in the U.S.
- Under Bunting Digital Forensics, instruct courses for Magnet Forensics as a contract instructor.
- Bunting Digital Forensics is under contract to SUMURI, LLC, whereby Steve Bunting manages the services division of SUMURI.

Mr. Bunting retired from a law enforcement career spanning over three decades, during which he conducted hundreds of examinations of computer systems for the University of Delaware Police as well as federal, state, and local law enforcement and prosecutorial agencies. He is also a trained and experienced forensic video analyst using the [Ocean Systems dTective® and Avid software systems](#). He is a frequent lecturer and instructor on computer forensics, cyber-crime, and incident response.

Mr. Bunting has testified in many trials as a computer forensics expert. He was the recipient of the 2002 Guidance Software Certified Examiner Award of Excellence for receiving the highest

test score on his certification examinations. Among his varied certifications he is an [EnCase Certified Examiner EnCE \(Guidance Software\)](#), an AccessData Certified Examiner (ACE), [Certified Computer Forensics Technician \(HTCN\)](#), and a [Certified XRY Instructor](#).

Mr. Bunting is a retired a police captain, having served in the State of Delaware for over thirty-five years. He created and developed the University of Delaware Police Department's Computer Forensic Lab. He has taught computer forensics for Guidance Software, makers of EnCase, and taught as a Lead Instructor at all course levels, including the Expert Series with particular emphasis on "Internet and Email Examinations" course. He has instructed students in computer forensics on an independent study basis for the [University of Delaware](#) and is an adjunct faculty member of [Goldey-Beacom College](#), teaching computer forensics. He has been a presenter at several seminars and workshops, the author of numerous "white papers", the principle author of [EnCase Computer Forensics - The Official EnCE: EnCase Certified Examiner Study Guide, 3<sup>rd</sup> Edition](#), the co-author [Mastering Windows Network Forensics and Investigation](#), the author of [EnCase Computer Forensics—The Official EnCE: EnCase Certified Examiner Study Guide, 2<sup>nd</sup> Edition](#), the co-author [Mastering Windows Network Forensics and Investigation 2<sup>nd</sup> Edition](#), the author of [EnCase Computer Forensics—The Official EnCE: EnCase Certified Examiner Study Guide, 3<sup>rd</sup> Edition](#) (all published by Wiley), and maintains a [website](#) for cyber-crime and computer forensics issues.

### Recent Consulting Engagements

While Mr. Bunting engages in a significant number of instructional endeavors, a number of consulting engagements have been undertaken. Some of those engagements are described below:

Recovered data from an Android phone that had been underwater and was delivered 'in pieces'. Using chip-off technique, all data was fully recovered including data that had been deleted.

Served as an expert for two defendants who were facing spoliation claims. Established that opposing expert had failed to discover settings whereby SMS's messages were forwarded from an iPhone to a MacBook Pro. Opposing expert claimed SMS messages were deleted from the iPhone when in fact they were in the opposing expert's possession on the MacBook Pro. Said deletions were offered as evidence of spoliation. Opposing expert also failed to find over 11,000 AIM Messenger chats that were on the iPhone.

Served as a trusted third-party digital forensic examiner in a Virginia case where a former employee was accused of theft of intellectual property, specifically programming code. Determined that accused party provided fabricated exhibits to examine in the form of a contrived MacBook Pro in which the time had been altered to appear to contain historical data when in fact it was only 3 weeks old.

Conducted digital forensics examinations of computers believed to be involved in a telecommunications fraud in the Middle East region, whereby perpetrators were conducting a multi-million dollar fraud in a balance transfer scheme exploiting a software defect.

Conducts ongoing training and course development for the U.S Department of State's Anti-Terrorism Assistance Program Cyber Division. As such six to eight courses are delivered each year in varying international locations.

Ongoing consultation with a digital forensics firm that specializes in examinations for copyright infringement cases in the motion picture industry involving peer-to-peer clients to download movies and other protected media.

Ongoing consultation with a digital security company in the UAE, providing incident response support services.

Developed a new Macintosh Digital Forensics course for the Delaware State Police Child Predator Task Force. The course is an in-depth program intended for those with significant digital forensics experience. It includes a unique module entitled "Digging Deeper – Research Techniques to Establish User Culpability", which is the first of its kind.

Developed and delivered a virtual course entitled: Cyber Security Investigations: Incident Response for the FedCTE program. The course was developed for virtual delivery using the AvayaLive virtual classroom and first delivered on June 25, 2014.

Provided expert witness services establishing that the plaintiff fabricated an email submitted during discovery in a civil matter. Testified in US District Court (Princeton, NJ) as expert for defense in computer forensics analysis and email analysis in a hearing to dismiss based on fraudulent documents offered into evidence by plaintiff. Specifically, testified that document proffered as an email was in fact fabricated to appear as such. – July 09, 2014. The matter is still under litigation.

As a member of a team, conducted an on-site assessment of a major middle east country's governmental cybercrime unit and digital forensics unit, prepared gap analysis reports, and prepared recommendations for creating ISO 17025 compliant laboratory operations, a modern cybercrime investigation and intelligence gathering unit, as well as country-wide expansion of capabilities for both units.

Assigned as principal leak investigator for a major mobile device manufacturer. Investigated significant intellectual property losses on a global basis.

Conducted a security assessment, as part of a team, of a Caribbean country's government IT infrastructure and made recommendations for securing their systems according to best practices.

Conducted computer forensic examination of all computers from a dental practice in a Medicaid fraud case. Examination involved reconstruction of a dental practice's business transactions spanning several years through analysis of SQL transaction logs from Patterson's *Eaglesoft* dental practice software. The findings in the report submitted substantiated ongoing fraud and induced a guilty plea, resulting in the incarceration of the offending dentist.

Conducted computer forensic examination of over two-dozen laptops belonging to employees of a major brand integrity unit, which investigates and mitigates brand piracy for its parent company. The unit was distributed in six countries and had been accused of various breaches of duty and unlawful acts. The examination took several months to complete and findings documented and substantiated the majority of the allegations, resulting in the dismissal of several employees.

### Certifications

Certified XRY Instructor, MSAB (Sweden)	October 2013
Certified ACE AccessData Certified Examiner	April 2011
Certified iPhone Examiner, MSAB	November 2010
Certified XRY Complete Examiner, MSAB	October 2010
Certified LAW PreDiscovery Administrator, LexisNexis	January 2010
Certified LAW PreDiscovery User, LexisNexis	January 2010
Certified Computer Forensic Technician, <a href="#">High Tech Crime Network</a>	September 2001
EnCase Certified Examiner, <a href="#">Guidance Software</a>	April 2002
Certified Cell Phone Examiner, Paraben Corporation,	May 2005
Certified PDA Examiner, Paraben Corporation	May 2005
State of Delaware Council on Police Training Certified Police Officer	April 1975

### Employment History

#### **SUMURI, LLC – Camden, DE – Senior Manager of Services – November 2016 to present**

- Provide management services for SUMURI's Services Division
- Develop and carry out the business plan for services
- Coordinate services, match resources with service needs, and ensure quality control
- Conduct digital forensic examinations and investigations

**Bunting Digital Forensics, LLC – Lewes, DE – CEO & Senior Digital Forensic Consultant – February 2013 to present**

- Conduct digital forensics examinations on a variety of media, including mobile devices
- Develop training programs for various cyber related topics
- Deliver training programs as an independent contractor for the Antiterrorism Assistance Program Cyber Division (see NDI below)
- Conduct assessments of digital forensics laboratories, conduct a gap analysis, and recommend a roadmap for improvements leading to accreditation
- Conduct specialized digital forensics examinations in support of Medicaid fraud cases

**Microsystemation (MSAB) – Stockholm, Sweden – Contract instructor for XRY training courses – October 2013 to present**

Teach XRY Mobile Device Forensic Solutions Courses

**Alvarez and Marsal, Washington, DC – Manager, Forensic Technology Services – September 2013 to February 2013**

- Develop and deliver a variety of training courses, including Macintosh Forensics, Incident Response, and Advanced Digital Forensics Courses.
- Developed and facilitated a table top training exercise to test and enhance the incident response capabilities of a large web hosting company
- Conduct digital forensic examinations on media associated with compromised systems.
- Interim Management, specifically Principle Leak Investigator for a large telecommunications company experiencing a significant loss of intellectual property.

**Forward Discovery, Inc – San Antonio, TX – Senior Forensic Consultant – September 2009 to September 2012**

Information security company that provides digital investigation, electronic discovery, vulnerability assessments and training services to corporate and government clients.

- Acquisition and forensic examination of digital media using industry standard forensics tools
- Develop & Instruct classes on Windows, Macintosh and Mobile Device Forensics
- Develop & Instruct classes on Cyber Investigations and related course work
- Investigative consultation in areas including theft of intellectual property, malware analysis, unlawful access of computer systems, theft of corporate resources, employee misuse of computer systems, and support of various types of criminal investigations (prosecution only - no criminal defense work).
- Consult with clients and develop E-Discovery plans
- Carry out electronic discovery processing from initial acquisition to final load file

**Network Designs, Inc.** – McLean, VA – Senior Instructor ATA Cyber Division as an Independent Contractor – September 2009 to present. On a contract basis to NDI, work as a Senior Instructor supporting the U.S Department of State Anti-Terrorism Assistance Program's Cyber Division, which included the following:

- Develop training modules for new training programs
- Provide advisement, briefings and presentations to foreign law enforcement officers on areas including cyber terrorism and cyber crime
- Provide technical computer investigation training to law enforcement and governmental agencies worldwide. Course taught include: Identification & Seizure of Digital Evidence, Introduction to Digital Forensics & Investigations, Macintosh Forensics, Cell Phone Forensics Consultation, EnCase Software Consultation, Server Incident Response (ADFC), Fundamentals of Network Security, Cyber Unit Management Consultation Proactive Internet Investigations Course, Forensic Equipment Grant Consultation, and Digital Forensic Lab Mentoring and Consulting.

**Guidance Software** – Pasadena, CA – Part-time Instructor - 2004 - 2005.

- Lead instructor teaching courses at all levels (Beginning to Expert)
- Assisted in course development and review

**University of Delaware Police Department** – Newark DE – Captain - July 1980 to August 2009.  
Principle duties were:

- Computer Forensics Unit
- Accreditation
- Southern Operations

## Education

University of Delaware - Computer Applications Certificate – Concentration in Network Environments - August 2004

Wilmington College - Bachelor of Science Applied Professions / Business Management - May 1986

Delaware Technical and Community College - 52 credit hours in the Criminal Justice Program

University of Delaware - Associate in Art - May 1973

## Publications

[Forensic Analysis of Spoliation and Other Discovery Violations - Part 2 of a 2-Part Series - Windows Examinations - eForensics Magazine - December 2016](#)

[Forensic Analysis of Spoliation and Other Discovery Violations - Part 1 of a 2-Part Series - Macintosh Examinations - eForensics Magazine - October 2016](#)

[EnCase Computer Forensics—The Official EnCE: EnCase Certified Examiner Study Guide, 3rd Edition - author - Wiley - September 2012](#)

[Mastering Windows Network Forensics and Investigation \(one of four co-authors\) - Wiley - 2012](#)

[EnCase Computer Forensics—The Official EnCE: EnCase Certified Examiner Study Guide, 2nd Edition - author - Wiley - November 2007](#)

[Mastering Windows Network Forensics and Investigation \(one of two co-authors\) - Wiley - April 2007](#)

[Encase Computer Forensics—The Official EnCE: Encase Certified Examiner Study Guide - primary author - Wiley - January 2006](#)

## Memberships and Affiliations

[Infragard](#) – secure member of the Wilmington, [Delaware Chapter](#) since June 2004.

[High Technology Crime Investigation Association](#) - member since August 2002.

[High Tech Crime Network](#) - member from September 2001 to date.



[National White Collar Crime Center](#) - designated agency contact person for agency membership in the organization - January 2001 to 2009.

### **Courses Recently Developed**

Chip-off / JTAG Bootcamp – A two-day course intended for stand-alone or to supplement a forensic software course. A pilot was recently delivered in January 2017.

Macintosh Digital Forensics – A new course for delivery by Bunting Digital Forensics to various clients. August 2015.

Cyber Security Investigations: Incident Response – New course development and delivery (part of two-person teams) – course was created for virtually delivery using the AvayaLive virtual classroom, with first delivery on June 25, 2014.

Mastering Macintosh Forensics – Rewrite (part of a four-person team) – Alvarez & Marsal for U.S. Department of State ATA – February 2013 – March 2013

Introduction to Digital Forensics and Investigation - Rewrite (part of two-person team) - U.S. Department of State ATA (Humtech) May 2012 - January 2013

Windows Server Incident Response - New course (part of two-person team) - Organization of American States May 2012 - Sept 2012

Advanced Digital Forensics Consultation (Windows / Linux / Macintosh Server Incident Response), New course (solo assignment) plus developed and built portable server lab -U.S. Department of State ATA - Sept 2011 - March 2012

Mastering Macintosh Forensics - New course (solo assignment) - U.S. Department of State ATA - Jan - June 2011

### **Languages**

Primary language is English, however during last several years have spent considerable time teaching and consulting in Latin American countries through interpreters, during which some Spanish skills have been acquired. Currently have the ability and experience demonstrating, teaching, and using EnCase and XRY software using the Spanish interface.

### **Teaching and Presentation Experience**

Foundation and Intermediate XRY Mobile Phone Forensics – Micro Systemation, A.B. – Dec 11-15, 2017, Nigerian MOI in Dubai, UAE.

Foundation and Intermediate XRY Mobile Phone Forensics – Micro Systemation, A.B. – Nov 27- Dec 1, 2017, Nokesville, VA.

Foundation and Intermediate XRY Mobile Phone Forensics – Micro Systemation, A.B. – Aug 21-25, 2017, Lansing, MI.

Foundation and Intermediate XRY Mobile Phone Forensics – Micro Systemation, A.B. – Mar 6-10, 2017, Singapore.

Chip-off Forensics Bootcamp – Sumuri, LLC – January 30, 2017, Dover, DE.

Foundation, Intermediate, XAMN XRY Mobile Phone Forensics – Micro Systemation, A.B. – Oct 24-28, 2016, Nairobi, Kenya.

Introduction to Digital Forensics and Investigation - U.S. Department of State ATA, July 18 - 29, 2016, Shillong, Meghalaya - India.

Identification & Seizure of Digital Evidence - U.S. Department of State ATA – July 6-15, 2016 – Shillong, Meghalaya – India.

Foundation XRY Mobile Phone Forensics – Micro Systemation, A.B. – May 16-17, 2016, U.S. Secret Service National Computer Forensics Institute Hoover, AL.

Foundation and Intermediate XRY Mobile Phone Forensics (private course for 5 members of the Kingdom of Saudi Arabia Ministry of the Interior) – Micro Systemation, A.B. – May 9-13, 2016, London, UK.

Foundation and Intermediate XRY Mobile Phone Forensics – Micro Systemation, A.B. – Feb 22-26, 2016, Jakarta, Indonesia.

Mobile Device Forensics Consultation, U.S. Department of State ATA, Feb 8-19, 2016, Jakarta, Indonesia.

Foundation & Kiosk XRY Mobile Phone Forensics - Micro Systemation, A.B. – Feb 2-4, 2016 – Singapore

Foundation and Intermediate XRY Mobile Phone Forensics – Micro Systemation, A.B. – Oct 21-25, 2015 – Washington, DC

Proactive Internet Investigations Course - U.S. Department of State ATA – Aug 10 - 21, 2015 – Mexico City, Mexico

EnCase Transition Training, Bunting Digital Forensics Custom Course, May 26 – 27, 2015 Delaware State Police Child Predator Task Force, Dover, DE

Foundation and Intermediate XRY Mobile Phone Forensics (private course for 5 members of the Kingdom of Saudi Arabia Ministry of the Interior) – Micro Systemation, A.B. – May 18-22, 2015 – New York, NY

Introduction to Digital Forensics and Investigation - U.S. Department of State ATA, May 3 - 14, 2015, Muscat, Oman

EnCase I (Guidance Software Course - ATP) – Abu Dhabi Police Department – Mar 1 – Mar 5, 2015 – Abu Dhabi, United Arab Emirates

Proactive Internet Investigations Course - U.S. Department of State ATA – Jan 26 - Feb 6, 2015 – Cuernavaca, Mexico

Identification & Seizure of Digital Evidence - U.S. Department of State ATA – Jan 16-23, 2015 – Cuernavaca, Mexico

Proactive Internet Investigations Course - U.S. Department of State ATA – Nov 17 - 28, 2014 – Tijuana, Mexico

Identification & Seizure of Digital Evidence - U.S. Department of State ATA – Nov 6-14, 2014 – Tijuana, Mexico

Foundation and Intermediate XRY Mobile Phone Forensics – Micro Systemation, A.B. – Oct 20-24, 2014 – Alexandria, VA

Foundation and Intermediate XRY Mobile Phone Forensics – Micro Systemation, A.B. – Sep 22-26, 2014 – Santiago, Chile

Proactive Internet Investigations Course – U.S. Department of State ATA – August 11 – 22, 2014 – Ciudad de México, México

Digital Forensic Lab Mentoring and Consulting – Lead Instructor - U.S. Department of State ATA, July 14 – 25, 2014, Medellin & Bucaramanga, Colombia

Cyber Security Investigations: Incident Response – U.S. Department of State FedCTE Program – June 24, 2014, Virtual Class - AvayaLive

Digital Forensic Lab Mentoring and Consulting – Lead Instructor U.S. Department of State ATA, May 5 – 16, 2014, Cali & Pereira, Colombia

Digital Forensic Lab Mentoring and Consulting - U.S. Department of State ATA, Mar 24 – Apr 4, 2014, Bogota, Colombia

Foundation and Intermediate XRY Mobile Phone Forensics – Micro Systemation, A.B. – Apr 7-11, 2014 – Alexandria, VA

Foundation and Intermediate XRY Mobile Phone Forensics – Micro Systemation, A.B. – Mar 3-7, 2014 – Vancouver, BC

Proactive Internet Investigations Course - Lead Instructor - U.S. Department of State ATA – Jan 27 – Feb 7, 2014 – Ciudad Juarez, Mexico

Identification & Seizure of Digital Evidence - U.S. Department of State ATA – Jan 20-25, 2014  
– Ciudad Juarez, Mexico

Intermediate XRY Mobile Phone Forensics – Micro Systemation, A.B. – Nov 20-22, 2013 –  
San Diego, CA

Identification & Seizure of Digital Evidence - U.S. Department of State ATA – Nov 4-9, 2013 –  
Chihuahua, Mexico

Computer Forensics for Legal Professionals, September 24, 2013, Widener University School  
of Law, Wilmington, DE

Introduction to Digital Forensics and Investigation - Lead Instructor - U.S. Department of  
State ATA, September 2-13, 2013, Mexico City, Mexico

Digital Forensic Lab Mentoring and Consulting - U.S. Department of State ATA, July 15-26,  
2013, Dakar, Senegal

Introduction to Digital Forensics and Investigation (New Version Pilot) - Lead Instructor -  
U.S. Department of State ATA, April 8-19, 2013, Manila, Philippines

Identification & Seizure of Digital Evidence - Lead Instructor - U.S. Department of State ATA  
– Mar 9-17, 2013 – Muscat, Oman

Identification & Seizure of Digital Evidence - U.S. Department of State ATA - Feb 11-21, 2013  
- Dakar, Senegal

Mastering Macintosh Forensics, Alvarez & Marsal, Oct 29 - Nov 2, 2012, 2012, Washington,  
DC

Incident Response Tabletop Exercise, large web hosting client, Oct 16-17, 2012, San Antonio,  
TX

Macintosh Incident Response, HTCIA, Sept 16-19, 2012, Hershey, PA

Windows Server Incident Response - Lead Instructor - Organization of American States, Sept  
3-7, 2012, Trinidad & Tobago

Fundamentals of Network Security, U.S. Department of State ATA, July 23 - Aug 3, 2012,  
Bogota, Colombia

Introduction to Digital Forensics and Investigation (Pilot for revised program) - U.S.  
Department of State ATA, April 23 - May 4, 2012, Mexico City, Mexico

Mastering Macintosh Forensics, Ocean County Prosecutor's Office, April 16-20, 2012, Tom's  
River, NJ

Advanced Digital Forensics Consultation (Windows / Linux / Macintosh Server Incident Response), Developer and Lead Instructor - U.S. Department of State ATA Mar 5-16, 2012, Bogota, Colombia

Cyber Unit Management Consultation, U.S. Department of State ATA, Sept 5-16, 2011, Bogota, Colombia

Cell Phone Forensics Consultation, U.S. Department of State ATA, July 11-22, 2011, Antigua.

Macintosh Forensics & Advanced Forensics Consultation, Developer and Lead Instructor - U.S. Department of State ATA, June 6-17, 2011, Bogota, Colombia.

Forensic Equipment Grant Consultation, U.S. Department of State ATA, May 17-31, 2011, Bangkok, Thailand

Introduction to Digital Forensics and Investigation - U.S. Department of State ATA, May 2-13, 2011, Mauritius

Advanced Forensic Acquisition & Analysis - Delaware ICAC - March 21-25, 2011, Dover, DE

Forensic Acquisition & Analysis - Delaware ICAC- Feb 21-25, 2011, Dover, DE

Cyberbullying - Cape Henlopen High School - January 27, 2011, Lewes, DE

Software Consultation: EnCase 1 & EnCase 2, U.S. Department of State ATA, Jan 10-21, 2011, Bangkok, Thailand

Incident Response & Forensic Tools Overview - Delaware Cyber Terrorism Exercise, Oct 27, 2010, Smyrna, DE

Identification & Seizure of Digital Evidence - U.S. Department of State ATA - June 3 - 11, 2010 - Mexico City, MX

EnCase Computer Forensics I – Lead Instructor - North Carolina ICAC- April 26 - 30, 2010 - Raleigh - Durham, NC

EnCase Computer Forensics II – Lead Instructor - Sidley Austin LLP - February 22 - 25, 2010 - Chicago, IL

EnCase Computer Forensics I - Qatar National Bank - October 11 - 15, 2009 - Doha, Qatar

EnCase Computer Forensics I - Abu Dhabi Police Department - October 4 - 8, 2009 - Abu Dhabi, UAE

Introduction to Computer Forensics - University of Delaware Police - August 17-21, 2009 - Lewes, DE

Advanced Computer Forensics Techniques - Computer Forensics Analysis and Training Center - June 4-5, 2009 - Sharon Hill, PA.

Cyberbullying - May 11, 2009 - Long Neck Elementary School - Millsboro, DE

“Computer Forensics - Current State and Future Challenges” - Computer Crimes Colloquium - April 7, 2009 - Wilmington University - Dover, DE

Identity Theft - City of Lewes Neighborhood Watch Meeting - March 23, 2009 - Lewes, DE

Disaster Recovery (CIS 486) - Goldey-Beacom College - January to March 2008 - Wilmington, DE.

Forensic Acquisition and Analysis - November 16-20, 2008, Dubai Police Department, Dubai, UAE

Cyber Stalking - Delaware Domestic Violence Council - Dover Police Department, November 7, 2008, Dover, DE

Computer Forensics (CIS 362) - Goldey-Beacom College - October to December 2008 - Wilmington, DE.

Advanced Computer Forensics - September 22-26, 2008, Sidley - Austin in Chicago, IL

Computer Forensics Primer for the Press - September 17, 2008 - Delaware Valley Press Club - Chester, PA.

Investigation Crimes Involving Computers - August 28-29, 2008 - Newark, DE.

Introduction to Computer Forensics - Computer Forensics and Analysis Training Center - August 26-27, 2008 - Sharon Hill, PA.

Disaster Recovery (CIS 486) - Goldey-Beacom College - March to April 2008 - Wilmington, DE.

Computer Forensics (CIS 362) - Goldey-Beacom College - October to December 2007 - Wilmington, DE.

Computer Forensics for Medical / Legal Professionals - University of Delaware Special Programs - November 9, 2007

Windows Network Investigations and Forensics - HTCIA Regional Training - June 19, 2007 - Newark, DE

User Services - First Response to Crime Scenes Workshop - Special Interest Group on University and College Computing Services - Edmonton, Canada - November 5, 2006

Cyber Stalking - Delaware Domestic Violence Council - November 16, 2006 - Dover, DE.

Computer Forensics for Prosecutors - Delaware Attorney General Staff - September 28, 2006 - Dewey Beach, DE.

CyberSpeak Podcast - Microsoft Log Parser Forensic Applications - June 3, 2006

CyberSpeak Podcast - User Assist Registry Key and Restore Point Forensics - May 13, 2006

Investigation of Cyber Incidents - University of Delaware System Administrators Group - May 17, 2006 - Newark, DE

Identity Theft and Cyber Safety - DuPont Experimental Station Staff - March 14, 2006 - Wilmington, DE.

Computer Forensics for Prosecutors - Delaware Attorney General Staff - September 22, 2005 - Lewes, DE.

First Response Issues for Crimes Involving Computers - Hosted by the U.S. Attorney's Office - September 16, 2005 - Dover, DE.

Examination of Photoshop Layer Data - RCFG GMU 2005 - August 15 & 18, 2005 - Fairfax, VA

Cyber-sabotage, Espionage, & Other Security Threats, February 23, 2005, Lorman Education Services, Newark, DE

Computer Forensics in the Courtroom, January 7, 2005, Widener University School of Law, Wilmington, DE

Computer Forensics for Prosecutors - Delaware Attorney General Staff - September 30 - October 1, 2004 - Dewey Beach, DE.

Forensic Examination of Peer-to-Peer Client Software Artifacts -NJSP High Tech Crime Unit. September 22, 2004, Trenton, NJ.

Introductory Computer Forensics Guidance Software - Sterling, VA Jun 29 - Jul 2, 2004 (32 hrs) Lead Instructor

Internet / Email Examinations Guidance Software - Sterling, VA Jun 22 - 25, 2004 (32 hrs) Lead Instructor

Email Examinations Lab at CEIC 2004 Myrtle Beach, SC Jun 6 - 9, 2004 (7.5 hrs - five presentations) Lead Instructor

Photoshop Layer Metadata Examinations CEIC 2004 Myrtle Beach, SC Jun 8, 2004 (1.5 hrs) Lead Instructor

Introductory Computer Forensics Guidance Software - Sterling, VA Apr 27 - 30, 2004 (32 hrs) Lead Instructor

Internet / Email Examinations Guidance Software - Sterling, VA Mar 30 - Apr 2, 2004 (32 hrs) Instructor

Internet / Email Examinations Guidance Software - Sterling, VA Feb 3-6, 2004 (32 hrs) Instructor

Introductory Computer Forensics Guidance Software - Sterling, VA Jan 6-9, 2004 (32 hrs)  
Lead Instructor

Internet / Email Examinations Guidance Software - Sterling, VA Nov 18-21, 2003 (32 hrs)  
Instructor

Introductory Computer Forensics Guidance Software - Sterling, VA Oct 21-24, 2003 (32 hrs)  
Instructor

Intermediate Analysis & Reporting Guidance Software - Sterling, VA Sept 9-12, 2003 (32 hrs)  
Instructor

Introductory Computer Forensics Guidance Software - Sterling, VA Aug 12-15, 2003 (32 hrs)  
Instructor

Introductory Computer Forensics Guidance Software - Sterling, VA July 8-11, 2003 (32 hrs)  
Instructor

Intermediate Analysis & Reporting Guidance Software - Sterling, VA June 17-20, 2003 (32 hrs)  
Instructor

Internet / Email Guidance Software - Sterling, VA May 6-9, 2003 (32 hrs) Instructor

Intermediate Analysis & Reporting Guidance Software - Sterling, VA Mar 4-7, 2003 (32 hrs)  
Instructor

Introductory Computer Forensics Guidance Software - Sterling, VA Feb 25-28, 2003 (32 hrs)  
Instructor

Internet Safety for Children - Winter / Spring 2003 semester offering through the University  
of Delaware Continuing Education Division

Cyber-Stalking and Related Crimes Involving Computers: October 7, 2002 in Newark, DE.

Computer Crime Issues for Prosecutors: - Presented to the Wicomico County States Attorney's  
Office (4/20/01) and to the Attorney General's Office for the State of Delaware Sex Crimes  
Unit (10/4/02).

Computer Forensics: - during the spring semester 2002, supervised and directed an  
independent course of study in computer forensics for a University of Delaware senior  
majoring in computer science. Program was under the auspices of Professor Chien-Chung  
Shen. Student is now employed with Price, Waterhouse, Cooper in the computer forensics  
division.

The Internet as an Investigative Tool: Presented at the University of Delaware (5  
presentations: 12/5/00, 1/8/01, 8/6/01, 8/13/01, & 8/26-27/02), at the Eastern Shore  
Criminal Justice Academy (3 presentations: 2/16/01, 3/8/01, and 3/20/01), and at Mount St.  
Mary's College (6/26/02).



Computer Crimes: 1<sup>st</sup> Responder Issues - course developed and presented to the University of Delaware Police as a 2-hour block during in-service training. Presented May 31, 2001, June 7, 2001, May 30, 2002, and June 5, 2002.

### **Training Courses Completed**

AX300 – AXIOM Advanced Mobile Examinations	Magnet Forensics – Oct 24-27, 2017 Sterling, VA
iVE Vehicle Forensics	Berla – Sep 25-29, 2017 Annapolis, MD
AX200 - AXIOM Examinations	Magnet Forensics – Sep 19-22, 2017 Online
XRY Train-the-Trainer Training	MSAB – Aug 30– Sep 1, 2017 Stockholm, SE
XRY Version 7 Training	MSAB – Aug 22–26, 2016 Stockholm, Sweden
XRY Version 7 Training	MSAB – Mar 28–Apr 1, 2016 Stockholm, Sweden
XRY Advanced Acquisitions	MSAB – Mar 21 – 25, 2016 Freehold, NJ
XRY Advanced Applications Analysis	MSAB – Dec 14 – 18, 2015 Washington, DC
XRY Train-the-Trainer Annual Training	MSAB – Sept 7-11, 2015 Stockholm, Sweden
XRY Train-the-Trainer Course	MSAB – Sept 30- Oct 11, 2013 Stockholm, Sweden
FTK Bootcamp Version 3	Access Data - April 5-7, 2011 - Online
XRY Physical Acquisition & Analysis Training	MSAB - Oct 6-8, 2010 - Alexandria, VA
XRY Logical Acquisition & Analysis Training	MSAB - Oct 4-5, 2010 - Alexandria, VA
Basic Malware Analysis	HB Gary - April 20-21, 2010 - Columbia, MD
LAW PreDiscovery Certified Administrator Course	LexisNexis - Jan 14, 2010 - Washington, D.C.
LAW PreDiscovery EDD Certified User Course	LexisNexis - Jan 12-13, 2010 - Washington, D.C
Microsoft Exchange Server 2007	Global Knowledge - Jan 26 - 30, 2009 - Arlington, VA
HTCIA Conference (24 hrs)	High Tech Crime Investigator's Association - Oct 20-22, 2008, Atlantic City, NJ
Neutrino Cell Phone Forensics (16 hrs)	Guidance Software - January 15 – 16, 2008, Sterling, VA.
Macintosh Forensics (40 hrs)	Phoenix Data Group - October 15-19, 2007 - Sharon Hill, PA

Vista Forensics	Access Data - July 20, 2007 - Washington, DC
Advanced Windows Intrusion Investigator's Course (40 hrs)	SYTEX - February 27 - March 3, 2006, FBI Academy, Quantico, VA
Adobe Photoshop for Forensic Video Analysts ( 16 hrs)	Resolution Video - December 14-15, 2005 - Reston, VA
Regional Computer Forensics Group Seminar (40 hrs)	RCFG / HTCIA - August 15-19, 2005 - GMU - Fairfax, VA.
Cell Seizure (16 hrs)	Paraben - May 18-19, 2005 in Newark, DE
PDA Seizure (16 hrs)	Paraben - May 16-17, 2005 in Newark, DE
Enterprise Security & Vulnerability (36 hrs)	USSS / SEARCH - April 18-22, 2005 in Cherry Hill, NJ
Access Data FTK Advanced Internet Training Course (24 hrs)	Access Data - March 15 - 17, 2005 in Dover, DE.
Ocean Systems: dTective (Advanced Video Forensic Analysis ) (16 hrs)	Ocean Systems - Feb. 24 - 25, 2005 in Burtonsville, MD.
Advanced UNIX Investigator's Course (40 hrs)	SYTEX - December 6 - 10, 2004, Ellicott City, MD.
EnCase EnScript Programming (32 hrs)	Guidance Software - November 16 - 19, 2004, Sterling, VA.
Networks and Networking for Agents / System Security and Exploitation (80 hrs)	SYTEX - October 18 - 29, 2004, Ellicott City, MD.
Law Enforcement Video Association Annual Training Conference 2004 (16 hrs)	LEVA - October 6 - 7, 2004 Washington, D.C.
NIJ Law Enforcement Technology Institute 2004 (40 hrs)	NIJ - July 11 - 16, 2004, Washington, D.C.
Computer and Enterprise Investigations Conference / TechnoSecurity Conference 2004 (28 hrs)	Guidance Software - June 6 - 9, 2004 in Myrtle Beach, SC.
Ocean Systems: dTective (Advanced Video Forensic Analysis ) (16 hrs)	Ocean Systems - May 6 - 7, 2004 in Burtonsville, MD.
Ocean Systems: Introduction to Forensic Video Examinations (24 hrs)	Ocean Systems - May 3 - 5, 2004 in Burtonsville, MD.

Access Data FTK Intermediate Training Course (24 hrs)	Access Data - April 5 – 7, 2004 in Dover, DE.
EnCase Expert Series: Internet & Email Examinations (32 hrs)	Guidance Software - February 4 - 7, 2003 in Sterling, VA.
EnCase Advanced Computer Forensics (32 hrs)	Guidance Software - January 21- 24, 2002 in Sterling, VA.
Introduction to Programming Concepts (Visual Basic 6) (50 hrs)	University of Delaware Course - Wilm, DE – Fall 2002
Computer and Enterprise Investigations Conference 2002 (16 hrs)	Guidance Software - September 16-17, 2002 Chantilly, VA.
Regional Computer Forensics Group Seminar (40 hrs)	RCFG / HTCIA - August 12-16, 2002 - GMU - Fairfax, VA.
ILook Computer Forensics Software (24 hrs)	ACES / FBI / IRS / NCFS - July 23-25, 2002 Orlando, FL.
Firewalls and Virtual Private Networks (16 hrs)	CSI / NIPC / FBI - May 22-23, 2002 MSP - Columbia, MD.
Internet Investigations and Child Exploitation Overview (8 hrs)	SEARCH - April 6, 2002, CCU - Conway, SC.
Techno-Security 2002 Conference (28 hrs)	The Training Company - April 7-10, 2002 - Myrtle Beach, SC
Enterprise Networks (50 hrs)	University of Delaware - Wilm, DE - Spring 2002
EnCase Advanced Computer Forensics (32 hrs)	Guidance Software - February 19-22, 2002 - Leesburg, VA.
LAN (Local Area Networks) (50 hrs)	University of Delaware - Newark, DE - Fall 2001
EnCase Intermediate Computer Forensics (32 hrs)	Guidance Software - August 7-10, 2001 - Leesburg, VA .
Techno-Security 2001 Conference (28 hrs)	The Training Company April 22-25, 2001 - Myrtle Beach, SC
WAN (Wide Area Networks) (50 hrs)	University of Delaware - Newark, DE - Spring 2001

Advanced Data Recovery and Analysis Course (40 hrs) NW3C - October 23-27, 2000 - Fairmont, WV.

The Internet as in Investigative Tool (8 hrs) NW3C / IFCC - October 12, 2000 - Fairmont, WV.

Basic Data Recovery and Analysis Course (40 hrs) NW3C July 24-28, 2000 in Myrtle Beach, SC.

### **Computer Forensics Expert Witness Experience**

Crawford and Company v Larry W. Daniel and Cunningham Lindsey Claims Management, Inc Civil Case No 17-1-01244 – Superior Court of Cobb County State of Georgia – Submitted affidavit on September 12, 2017 on behalf of Crawford that an iPhone submitted by the defendant as part of electronic discovery had the messages set to delete after 30 days and that the user has enabled backup encryption, thereby preventing the contents from being acquired. Case settled without going to trial.

AdMarketer, LLC and Credit Benefit Services, LLC v Isaac “Zack” Bernato; Dennis H. James; CRM Holding Company, LLC; IMT Marketplace, LLC; World Clicks, LLC; and Valerie DiNardo – Civil Action File No: 2015CV267337 in the Superior Court of Fulton County State of Georgia – Submitted affidavit on March 31, 2017 on behalf of the defendant that opposing expert had made a finding that defendant had deleted messages, thus supporting a spoliation claim. Affidavit stated that opposing expert had not discovered iPhone message setting for ‘delete after 30 days’ nor had he discovered that SMS forwarding was enabled, enabled specifically to a Mac laptop that was in the possession of the opposing expert and which opposing expert had failed to examine. This laptop contained all the chat messages that the expert claimed were deleted. Further the affidavit stated that the opposing expert had used only one tool in his examination and in doing so missed over 11,000 AIM messages, many of which were relevant to the case. Defendants filed bankruptcy and case settled without trial.

Tamika Covington vs International Association of Approved Basketball Officials, Board 193, et al. (CIVIL ACTION NO. 3:08-cv-03639) - US District Court (Princeton, NJ) – Testified as expert for defense in computer forensics analysis and email analysis in a hearing to dismiss based on fraudulent documents offered into evidence by plaintiff. Specifically, testified that document proffered as an email was in fact fabricated to appear as such. – July 09, 2014.

Network Computing Services Corporation vs Haynsworth, Sinkler, P.A. Belton T. Zeigler and John Tiller (South Carolina) – Submitted two affidavits for the plaintiff regarding deleted emails in a case alleging legal malpractice – April 2010

State of Delaware vs Irina Malinovskaya (3rd trial - Murder 1st) – Testified as computer forensics expert regarding analysis of defendant’s computer. Also testified that an email offered by the defendant after the 2<sup>nd</sup> trial was fabricated and offered as evidence. The defendant was convicted of tampering with physical evidence. - 2007

Cpl B. Kurt Price et al. vs Colonel L. Aaron Chaffinch et al. (US District Court) Submitted affidavit as to wiping of a hard drive by the plaintiff - May 2006

State of Delaware vs Irina Malinovskaya (2nd trial - Murder 1st) Testified - 2006

State of Delaware vs Stephanie McMullen (Munchausen's Nurse case) Testified - 2006

State of Delaware vs Eric Kemske (Manufacture, distribute, possess child pornography – peer-to-peer software involved) – Testified - 2005

State of Delaware vs Keith Appleby (Suppression Hearing - Computer Intrusion Case) Testified - 2003