

*American Society of Crime Laboratory Directors*



**EXECUTIVE EDUCATION DIGEST**

*a leadership development resource for  
forensic science laboratory directors and managers*

**2015**



---

---

# TABLE OF CONTENTS

---

---

3	<a href="#"><u>ASCLD Board of Directors</u></a>
5	<a href="#"><u>Message from the President</u></a>
7	<a href="#"><u>2015 Symposium – Washington, D.C.</u></a>
8	<a href="#"><u>Symposium Schedule</u></a>
14	<a href="#"><u>ASCLD Board Candidates</u></a>
27	<a href="#"><u>ASCLD Position Statement on Accreditation</u></a>
29	<a href="#"><u>Transformational Leadership</u></a> <i>By Ryan Larrison, Michigan State Police</i>
32	<a href="#"><u>Computer Simulation Modeling</u></a> <i>George Herrin, Georgia Bureau of Investigation</i> <i>John Speir, Applied Research Services, Inc.</i>
38	<a href="#"><u>ASCLD Leadership Academy – By the Numbers</u></a>

---

---

# ASCLD BOARD OF DIRECTORS

---

---

**President**

Brady Mills  
Deputy Assistant Director  
Texas Department of Public Safety  
Law Enforcement Support – Crime Lab Service  
5800 Guadalupe  
Austin, TX 78681  
512-424-7151  
brady.mills@dps.texas.gov

**President-Elect & Symposium Planning  
International Co-Chair**

Jody Wolf  
Asst. Crime Lab Administrator  
Phoenix PD Crime Lab  
Phoenix Police Department  
621 W. Washington  
Phoenix, AZ 85003  
602-534-8751  
jody.wolf@phoenix.gov

**Treasurer**

Matthew Gamette  
Director  
ISP Forensic Services  
Idaho State Police  
700 South Stratford Drive, Suite 125  
Meridian, ID 83642  
208-884-7217  
matthew.gamette@isp.idaho.gov

**Secretary**

Cecilia Doyle  
Director  
Forensic Science Center  
Illinois State Police  
1941 W Roosevelt Rd  
Chicago, IL 60608  
312-433-8000 x2107  
cecilia\_doyle@isp.state.il.us

**Membership Chair**

Director Ray Wickenheiser  
NY State Police Crime Laboratory System  
1220 Washington Ave, Bldg 30  
Albany, NY 12226-3000  
518-457-1208  
Ray.Wickenheiser@Troopers.ny.gov

**Nominations and Awards Chair**

Kris Cano  
Laboratory Manager  
Scottsdale PD Crime Laboratory  
Scottsdale Police Department  
7601 B East McKellips Rd.  
Scottsdale, AZ 85257  
480-312-5107  
kwhitman@scottsdaleaz.gov

**Communications Chair**

Sabrina Cillessen  
Forensic Science Manager  
Virginia Dept. of Forensic Science  
700 North Fifth Street  
Richmond, VA 23219  
804-588-4026  
Sabrina.Cillessen@dfs.virginia.gov

**Ethics and Bylaws Chair**

Jeff Salyards  
Executive Director  
Defense Forensic Science Center  
US Department of Defense  
404-469-5569  
michael.j.salyards.civ@mail.mil

**Training and Education Co-Chair**

Andrea Swiech  
Division Director  
Forensic Science Center  
Oklahoma State Bureau of Investigations  
800 E. 2nd Street  
Edmond, OK 73037  
405-715-9501  
andrea.swiech@osbi.ok.gov

**Education and Training Co-Chair**

**Sponsorship Chair**  
Adam Becnel  
Laboratory Manager  
LSP Crime Laboratory  
Louisiana State Police  
376 E. Airport Ave.  
Baton Rouge, LA 70806  
225-925-6216  
adam.becnel@dps.la.gov

**Advocacy Chair**

Jeremy Triplett  
Laboratory Supervisor  
Central Laboratory  
Kentucky State Police  
100 Sower Blvd., Suite 102  
Frankfort, KY 40601  
502-564-5230  
jeremy.triplett@ky.gov

**Past President**

**International Co-Chair**  
Jay Henry  
Director  
Bureau of Forensic Services  
Utah Department of Public Safety  
P.O. Box 148285  
Salt Lake City, UT 84114  
801-965-4093  
jhenry@utah.gov

**Executive Director**

Jean Stover  
American Society of Crime Laboratory Directors  
139A Technology Drive  
Garner, NC 27529  
(919) 607-3930  
asclddirector@gmail.com

**Office Administrator**

Ramona Robertson  
139A Technology Drive  
Garner, NC 27529  
Phone: (919) 773-2044  
Fax: (919) 861-9930  
Email: office@asclld.org



# The American Society of Crime Laboratory Directors

"Excellence Through Leadership in Forensic Science Management"

## A Message from our President

March 30, 2015

On behalf of the ASCLD Board of Directors, I would like to welcome you to the nation's capital. From creating the Executive Education Digest to organizing local events, this meeting was organized by the members of the ASCLD Symposium Planning Committee. President-elect Jody Wolf and I wish to thank them for their hard work!

Again, it's been quite the year of hard work and change! The theme for this conference is "Excellence in Forensic Leadership." As we developed the symposium schedule, we encouraged presentations around this theme and the committee has definitely met this goal.



**Brady Mills, ASCLD President**

The Symposium Planning Committee has been working hard to bring you a full agenda of workshops and symposium sessions focused on Excellence in Forensic Leadership as well as how leadership translates to policy and practice in the 21st Century crime laboratory. We realize there won't be enough time to understand all of the complexities and give our membership the chance for in-depth discussions of all the details. Therefore, please consider these presentations as teasers, as we are considering future webinars on each of these subjects. We have used this technology well over the last two years and are looking for the next idea to present for next year's webinar offering. Please let President-elect Jody Wolf or me know if you have any ideas. Additionally, we are proud to announce that we will also be hosting the International Forensic Strategic Alliance meeting in conjunction with the 2015 symposium.

### **Year in Review**

To highlight just a few items, ASCLD has co-administered the United States Technical Advisory Group to the ISO Project Committee 272 in the development of standards for the manufacture of DNA consumables used in forensic DNA analysis. Additionally, ASCLD will be hosting the ISO PC 272 Committee meeting in advance of the annual ASCLD symposium in April in Washington, DC. The work product of this committee will be a set of standards used by manufacturers to limit the introduction of extraneous DNA in plastics used during DNA analysis..

This past year, ASCLD also delivered its second Leadership Academy during which participants receive 40 hours of blended instruction (webinar and in-person capstone) on topics related to the skills needed to be a successful leader in the 21st Century crime laboratory. Over the course of two years, ASCLD has provided more than 5,600 contact hours of instruction to more than 140 students.

ASCLD has also continued its efforts to deliver current information and facilitate discussion on important topics facing the forensic community. Over the course of the past year, ASCLD has continued to partner with the Forensic Technology Center of Excellence at RTI International on a series of webinars on Rapid DNA analysis. Three 1-hour webinars were hosted on the validation, current use, and future implementation of this technology. There were more than 350 participants in this series that represented all 50 states plus a significant international presence.

The Forensic Research Committee also developed a Validations and R&D repository that is available to members on the ASCLD website (<http://www.ascl.org>). This portal is intended to be a warehouse of validation projects completed by laboratories for instrumentation, methodologies, etc. that are adopted by laboratories for use in forensic analysis.. Crime laboratories and members are invited to upload a summary of their validation projects using the portal. This repository can also be searched by members if they are considering a new validation project. Please visit our website for additional information on becoming a member, learning more about the Validations and R&D, or any of our other initiatives.

In closing, the highlights above only touch upon a few of last year's accomplishments. There is so much more good work occurring with our committees within the organization. Feel free to reach out to any of your Board members for an update on their committee work.

I would also like to note that we always need help. We continue to seek new volunteers to serve on committees to continue the good work that is being accomplished by the organization. Please consider volunteering.

I hope you enjoy the meeting.

*Brady W Mills*  
*ASCLD President*

---

---

# 2015 ASCLD SYMPOSIUM

---

---

## The 42<sup>nd</sup> Annual ASCLD Symposium

April 26 – 30, 2015

Washington, D.C.

[www.ascldsymposium.com](http://www.ascldsymposium.com)

Managers in the forensic field face ever-changing challenges as they try to supervise budgets and personnel and manage ever increasing demands for forensics. Each manager/supervisor must lead their subordinates and guide them as changes in policy and procedure occur to lead their laboratory to success in the 21st Century. With that in mind, the American Society of Crime Laboratory Directors (ASCLD) is pleased to announce that the theme for the 2015 ASCLD symposium is “Excellence in Forensic Leadership.”

### Lodging

Situated on 16 acres, the Washington Marriott Wardman Park Hotel is conveniently located in Woodley Park near the National Zoo, Adams Morgan's funky shops and numerous restaurants serving a diverse variety of culinary delights.



**Marriott Wardman Park Hotel (Host)**

Washington Marriott Wardman Park Hotel  
2600 Woodley Road NW  
Washington, DC 20008  
202-328-2000



**Omni Shoreham Hotel (Overflow)**

Omni Shoreham Hotel  
2500 Calvert Street NW (At Connecticut Ave.)  
Washington, DC 20008

## Symposium Schedule

Date	Time	Event
<b>Fri April 24th</b>	8:00 - 5:00	ISO TC272 Committee Meeting
	8:00 - 5:00	ASCLD/LAB Board Business Meeting
<b>Sat April 25th</b>	8:00 - 5:00	ASCLD Board of Director's Meeting
	8:00 - 5:00	ASCLD/LAB Board of Director's Meeting
	8:00 - 5:00	ISO TC272 Committee Meeting
	6:00 - 9:00	Special Board Event
<b>Sun April 26th</b>	8:00 - 5:00	ASCLD Board of Director's Meeting
	8:00 - 5:00	ASCLD/LAB Board of Director's Meeting
	8:00 - 5:00	ISO TC272 Committee Meeting
	8:00 - 5:00	ASCLD Leadership Academy (Day 1) John Collins, Tim Scanlan, Elana Quinones-Conant
	8:00 - 5:00	Cognitive Factors in Forensic Decision Making - Itiel Dror (#201)
	8:00 - 12:00	What You Need to Know to Manage Disciplines Outside of Your Core Areas of Expertise - Debra Epstein, Nancy Crump, Scott Rex, Anne Steinmetz
	8:00 - 12:00	Wrong: What to do when experts make mistakes - Carey Hall, Glenn Langenburg
	8:00 - 12:00	An Application of the Kipling Method to DNA Validation in the 21st Century - Mike Coble, Robin Cotton, Charlotte Word
	8:00 - 12:00	Management of Federal Awards for Forensic Science Laboratories - Gerry LaPorte and Alan Spanbauer
	12:00 - 1:00	LUNCH
<b>Sun April 26th</b>	1:00 - 5:00	Latent Print Unit Management For The Non-Latent Print Examiner - John Byrd
	1:00 - 5:00	ISO/IEC 17025: Non-Conformances and Strategies to Prevent Recurrence - Karin Athanas
	1:00 - 5:00	DNA Mixture Interpretation: Change Management and the Nature of Life - Mike Coble and Daniel Katz
	1:00 - 5:00	The National Institute of Justice Performance Measurement Tool for the DNA Capacity Enhancement and Backlog Reduction Program - Gerry Laporte and Alan Spanbauer
	5:00-7:00	FORESIGHT Meeting
<b>Mon April 27th</b>	8:00 - 5:00	ISO TC272 Committee Meeting
	8:00 - 5:00	IFSA Meeting
	8:00 - 12:00	CFSO Meeting

Date	Time	Event
	8:00 - 5:00	ASCLD Leadership Academy (Day 2) John Collins, Tim Scanlan, Elana Quinones-Conant
	8:00 - 5:00	Effective Root Cause Analysis - Emma Dutton
	8:00 - 5:00	Cognitive Factors in Forensic Decision Making - Itiel Dror
	8:00 - 12:00	The National Institute of Justice Performance Measurement Tool for the DNA Capacity Enhancement and Backlog Reduction Program - Gerry Laporte and Alan Spanbauer
	8:00 - 12:00	DNA Mixture Interpretation: Change Management and the Nature of Life - Mike Coble and Daniel Katz
	8:00 - 12:00	Risk Management at the Strategic, Operations, and Tactical Levels - Max Houck and Chris McGuire
	8:00 - 12:00	Social Media Skills for the Agency Professional - Chris Vivian
	12:00 - 1:00	LUNCH
	1:00 - 5:00	Day on the Hill
	1:00 - 5:00	Management of Federal Awards for Forensic Science Laboratories - Gerry LaPorte and Alan Spanbauer
	1:00 - 5:00	An Application of the Kipling Method to DNA Validation in the 21st Century - Mike Coble, Robin Cotton, and Charlotte Word
	1:00 - 5:00	Forensic Cost Benefit Analyses "How to Show Top Management Your Laboratory's Forensic ROI > 1" Or "Forensic Science provides a Big Bang for the Buck" - Mark Dale and Mark Heffernan
	1:00 - 5:00	ANSI-ASQ National Accreditation Board/FQS Forensic Program for ISO/IEC 17020 Accreditation and Police Forensics - Terry Mills
	3:00 - 4:30	Offsite Tour of the D.C. Consolidated Forensic Laboratory
	5:30-7:00	Welcome Reception & Visit the Vendors
<b>Tue April 28th</b>	7:00 - 8:00	Breakfast with the Vendors
	8:00 - 8:15	Opening Remarks: President Mills and President Elect Jody Wolf
	8:15 - 9:00	Key Note - Commissioner William B. Evans - City of Boston Police Department
	<b>9:00 - 10:00</b>	<b>Plenary Block I - OSAC/NCFS Part I</b>
	30 min	Nelson Santos - The National Commission on Forensic Science: Status Update
	15 min	Mark Stolorow - The OSAC and the NCFS: Interaction and Liaison
	15 min	Jeremy Triplett - OSAC: Process, Structure and Functions
	10:00 - 10:30	Break with the Vendors
	<b>10:30 - 12:00</b>	<b>Plenary Block II -- Management/Leadership</b>
	20 min	Paul Reedy - People Centered Leadership in Forensic Science
	20 min	Anja Einseln - Men and Women in the Workplace

Date	Time	Event
	20 min	John Collins - Problem Employees and Problem Bosses - How to Reclaim your Vision
	12:00 - 1:30	Lunch with the Vendors
	12:15 - 1:30	Poster Session I
	<b>1:30 - 3:00</b>	<b>Plenary Block III - OSAC Part II</b>
	15 min	Kris Cano - QIC Update
	15 min	Richard Verdre Bruegge - Updates on Outcomes So Far & Action Items for 2015 - Digital & Multimedia Evidence
	15 min	Greg Davis - Updates on Outcomes So Far & Action Items for 2015 - Crime Scene/Death Investigation
	15 min	Scott Oulton - Updates on Outcomes So Far & Action Items for 2015 - Chemistry/Instrumental Analysis
	15 min	George Herrin - Updates on Outcomes So Far & Action Items for 2015 - Biology/DNA
	15 min	Austin Hicklin - Updates on Outcomes So Far & Action Items for 2015 - Physics/Pattern Interpretation
	3:00 - 3:30	Break with the Vendors
	<b>3:30 - 5:00</b>	<b>Plenary Block IV - ASCLD's Forensic Research Committee Technology Presentations</b>
	15 min	Roman Aranda - A Large-scale Study of DNA Mixture Interpretation: Inter- and Intra-laboratory Variation
	15 min	Brian Cerchiai - Miami-Dade Research Study for the Reliability of the ACE-V Process: Accuracy and Precision in Latent Fingerprint Examinations
	15 min	Jason LeBlanc - Real-Time Synthetic Cannabinoid Detection Platform
	15 min	Jason Walterscheid - Advanced Techniques for Identifying New Compounds in Toxicology Casework
	15 min	Tate Yeatman - Quantitation of Ethanol and Identification of Other Volatiles by Headspace Gas Chromatography with Simultaneous Flame Ionization and Mass Spectrometric Detection
	15 min	Mike Garvey, Stephanie Stoiloff, and Jan Girten - Rapid DNA - Pilot Study for Law Enforcement
	6:30 - 9:30	Evening Event - Night Tour of Washington Monuments
<b>Wed April 29th</b>	7:00 - 8:00	Breakfast with the Vendors

Date	Time	Event
	<b>8:00 - 10:00</b>	<b>Plenary Block V - Break-out Session 1 Best Practices to Operating a Crime Lab</b>
	20 min	George Herrin - Use of Computer Simulation Models to Assist with Laboratory Management Decision Making
	20 min	Garry Bombard -Update to the Staffing and Infrastructure Model: A Model for Adequate Forensic Scientist Staffing and Funding of the Nation’s Forensic Science Crime Laboratories
	20 min	Max Houck - FORESIGHT as a Performance Stat Leadership Strategy, or How to “Moneyball” Your Laboratory
	20 min	Ryan Larrison - Michigan’s Secure Cities Project: Preserving and Expanding A High-Performing Laboratory Team in a Challenging Leadership Environment
	20 min	Kristin Murrock -Your Evidence, Our Court Case: How One General Counsel’s Office Streamlines Evidence in the Labs with Active Criminal Justice Cases
	20 min	Jonathan Newman-How to Double Your Output in Half the Time: Expanding Services on Your Terms
	<b>8:00 - 10:00</b>	<b>Plenary Block V - Break-out Session 2 Rape Kits: Everything You Need to Consider</b>
	15 min	Jay Henry - Utah Department of Public Safety: Utah's experience with the rape kit issue
	15 min	Jack Ballantyne - Why forensic science service providers assisting sexual assault investigations should offer Y-chromosome testing services
	15 min	Cecilia Doyle - The processing of every rape kit. Funding, resources, more hits?
	15 min	Rebecca O'Connor-RAINN A victim advocate viewpoint
	15 min	Melissa Mourges - A prosecutor viewpoint
	15 min	Jeffrey Thompson - Considerations When Testing Every Sexual Assault Evidence Kit
	15 min	David Miller - Belated Justice: Ohio’s Untested Sexual Assault Kits
	15 min	Panel discussion/Questions
	<b>8:00 - 10:00</b>	<b>Plenary Block V - Break-out Session 3 Policy/Practice</b>
	60 min	Matthew Gamette, Kris Cano, Ray Wickenheiser, & Matt Redle - Report Writing Panel
	20 min	Ron Smith - Excellence in Forensic Leadership: You Are Only As Good As Your Expert Witnesses
	20 min	Carol Henderson - Meeting 21st Century Challenges to Courtroom Testimony: How to Produce "Courtroom Ready"

Date	Time	Event
		Forensic Scientists
	20 min	Lynn Garcia - The Bright Side of State Oversight: Lessons from the Texas Forensic Science Commission
	10:00 - 10:30	Break with the Vendors
	<b>10:30 - 12:00</b>	<b>Plenary Block VI - Break-out Session 1 - Quality/Accreditation</b>
	20 min	Peter Neufeld - Crime Laboratory Quality Systems
	20 min	Rhease Gilliland -Yes it is possible to accredit 18 one analyst Digital Evidence laboratories
	20 min	Keith Bedford - The “not only....but also” principle in forensic science
	20 min	Ashraf Mozayani - Laboratory Integrity
	<b>10:30 - 12:00</b>	<b>Plenary Block VI - Break-out Session 2 Mangement/Leadership (Cost of Doing Business)</b>
	20 min	Peter DeForest - The Fallacy Concerning the "High Cost" of Trace Evidence Cases
	20 min	Garry Bombard and Vince Figarelli - Rapid DNA Costs and Benefits: Examining the current uses within the law enforcement community
	20 min	Christine Funk - The Unexpected Consequences of Open Discovery: One Laboratory's Experience
	20 min	Mike Garvey - Forensic Science as Technical Intelligence
	<b>10:30 - 12:00</b>	<b>Plenary Block VI - Break-out Session 3 Policy/Practice (Federal Updates)</b>
	15 min	Gerry LaPorte - Strengthening Forensic Science in the United States: An Update on National Efforts in Research and Development
	15 min	Gerry LaPorte -An Overview of Grant Programs Available to Forensic Science Laboratories
	15 min	Jeri Roper-Miller - The Forensic Technology Center of Excellence — Research to Laboratory Reality
	30 min	Matthew Gamette/Jeremy Triplett - ASCLD Advocacy Update
	15 min	Beth Lavach - CFSO Update
	12:00 - 2:00	Lunch with the Vendors
	12:30 - 2:00	Poster Session II
	2:00 - 3:00	Plenary Block VII - OSAC Part III
	30 min	Karen Reczek - Standards Development Process

Date	Time	Event
<b>Thu April 30th</b>	30 min	Pam Bordner - ASCLD/LAB Perspective on Incorporation of OSAC Standards into Accreditation Standards
	3:00 - 3:30	Break with the Vendors
	3:30 - 5:00	ASCLD/LAB Delegate Assembly Meeting
	5:30 - 7:00	Midwest Regional Lab Directors
	6:30 - 8:00	President's Reception (Stakeholder's)
	9:00 - 11:00	President Elect's Reception
	7:00 - 8:00	Breakfast
	<b>8:00 - 9:00</b>	<b>Plenary Block VIII - Policy/Practice</b>
	30 min	Guest Speaker - Senator Cornyn invited
	30 min	Jody Wolf - IFSA Board - Minimum Requirement Documents
	9:00 - 10:00	ASCLD Business Meeting
	10:00 - 10:30	Networking Break
	10:30 - 12:00	ASCLD Business Meeting Cont.
	12:00 - 1:30	Awards Luncheon - <i>Celebrating our Founders: A Walk Through Time</i>
		Carla Noziglia, MS, FAAFS - Senior Forensic Advisor, DOJ/ICITAP
	<b>1:30 - 3:30</b>	<b>Plenary Block IX</b>
	60 min	Barry Fisher, Susan Narveson, Irma Rios & Carl Selavka - How to Deal with Professional Crises that Profoundly Affect the Lab Director
	60 min	John Collins - The Innocence Audit - How Misconduct can Produce Erroneous Exonerations
6:00 - 8:00	Past President's Dinner	
6:00 - 8:00	New ASCLD BOD Dinner	

---

---

# ASCLD BOARD CANDIDATES

---

---

The ASCLD Nominating Committee is pleased to present the following list of candidates for positions that will be filled at our upcoming symposium in September. They are listed here in alphabetical order. Following this list are answers the candidates have provided in response to questions they were asked to consider as candidates for the ASCLD Board.

## **Kristine (Kris) Deters**

MN Bureau of Criminal Apprehension Forensic Science Service  
1430 Maryland Ave E., St. Paul, MN 55106  
651-793-2994 (w) and 651-587-7795 (c)  
Kristine.deters@state.mn.us

## **Matthew Gamette**

Idaho State Police Forensic Services  
700 South Stratford Drive  
Meridian Idaho 83642  
208-884-7217  
matthew.gamette@isp.idaho.gov

## **Deborah A. Leben**

United States Secret Service  
245 Murray Drive, SE Building T5  
Washington, DC 20223  
202-406-5269  
Deborah.Leben@uss.s.dhs.gov

## **Christian G. Westring, Ph.D.**

NMS Labs  
2300 Stratford Avenue, Willow Grove, PA 19090  
(215)366-1380  
christian.westring@nmslabs.com



## **Kristine (Kris) Deters**

MN Bureau of Criminal Apprehension Forensic Science Service  
1430 Maryland Ave E., St. Paul, MN 55106  
651-793-2994 (w) and 651-587-7795 (c)  
Kristine.deters@state.mn.us

### **Education:**

University of Minnesota - Duluth, MN  
Dates attended: 1993 - 1995  
M.S. Degree - Chemistry, Concentration: Biochemistry

University of Minnesota - Duluth, MN  
Dates attended: 1989 - 1993  
B.S. Degree – Biology and Chemistry

North Carolina State University – Raleigh, NC  
Date class taken: Fall 2001  
Class: Statistical Genetics for Forensic Scientists

### **Employment Experience:**

MN BCA Forensic Science Service, 11/1999 to present

- Forensic Science Supervisor – 1/2009 to present
- Forensic Scientist 3 – 3/2004 – 1/2009
- Forensic Scientist 2 – 11/10/99 to 3/2004

#### *Principle Duties:*

- Supervise Nuclear DNA Casework section – 12 direct reports and casework manager for 11 additional DNA scientists
- Supervise Crime Scene Team Program (appointed 8/2013) – 1 direct report and technical manager for 20 additional scientists
- To act as spokesperson for technical information and laboratory activities for clients and the public
- To assure quality forensic examinations are provided to LE community
- To plan, coordinate, evaluate and implement all technical programs in the biology and crime scene sections
- To manage the research, validation, technical implementation and quality control of significant new technologies being developed within the biology and crime scene sections
- To assure that the results and interpretation of nuclear DNA analyses and crime scene response reports provided to the criminal justice system are accurate and timely

- To act as a lead auditor for internal audits of the laboratory and prepare reports and recommendations to improve the quality operations of the laboratory
- To evaluate, interview and make recommendations to laboratory management concerning the hiring of new staff, promotion of current staff and remedial actions that may be needed for staff
- Currently qualified DNA scientist

*Past Duties*

- DNA Technical Leader 1/2010 to 7/2010, 2/2011 to 5/2011
- Acting Supervisor 4/2006 to 10/2006 and 6/2008 to 1/2009
- Training coordinator/ casework lead worker to the Biology Section ('04-'09)
- Crime Scene Team Leader
- DNA Technical Leader for South Dakota Forensic Laboratory (2001-2004)

Washington State Patrol Crime Laboratory, 10/23/95 to 10/15/99

- Forensic Scientist 1, 2, 3

**Prior ASCLD experience (previous Board member, committee member, meeting volunteer, etc.):**

2015 ASCLD Symposium Planning committee member

**If elected, I am interested in working on the following ASCLD issues/committees:**

Training and education committee – the quality of forensic science examinations is directly related to the qualifications of practitioners and the laboratory's quality program. Also, as managers, it is beneficial to our organizations to have educated candidates for employment. I am interested in both educational opportunities at the college level, as well as continuing education and training for practitioners and managers.

I am also interested in working on any initiatives involving sexual assault kit processing and Rapid DNA technology implementation. These topics are of great interest to the law enforcement and forensic communities, as well as the general public. The ability to provide quality and rapid testing services to all victims should be a priority for forensic science organizations.

**As a member of the Board, you may be asked to represent ASCLD at speaking engagements or develop written statements on behalf of the Board. How would you describe your ability to communicate ideas verbally and in writing?**

I enjoy speaking and writing about issues involving forensic science. I can clearly convey information to a technical audience or present my ideas to a general audience in a manner that is easily understood.

**How committed are you to serving on the ASCLD board? What skills will you bring to the table?** I am very committed to serving on the ASCLD board. I have long been serving the citizens of Minnesota in my capacity as a forensic scientist and supervisor. Now I would like to use my

skills and knowledge to serve the forensic community through participation in ASCLD's activities. I have the leadership skills, passion and energy to complete the tasks required of board members.

I have been employed as a forensic scientist for almost 19 years combined at two large state forensic laboratory systems, the Washington State Patrol and the Minnesota Bureau of Criminal Apprehension Forensic Science Service (BCA). The last six years have been as a supervisor at the BCA in the DNA section and also supervising the Crime Scene discipline for the last 1.5 years. I am familiar with many of the forensic disciplines, as during my career, I have worked in controlled substances analysis, serology, DNA testing and crime scene processing. I have led the DNA section to incorporating a greater level of automation in order to respond to the increased demands for DNA testing of all crimes. I was an ASCLD/LAB Legacy auditor, am a trained ASCLD/LAB International assessor and plan to do assessments for ASCLD/LAB. I have been a lead DNA auditor for NFSTC and have conducted external and internal QAS audits. These experiences demonstrate that I have the skills to be a leader for ASCLD and the follow-through to complete the necessary tasks.

**What role should ASCLD play in developing a strong future for forensic science laboratories?**

ASCLD is uniquely positioned to influence the quality and effectiveness of forensic testing both in the United States and the global community. ASCLD can ensure a strong future for forensic science laboratories by continuing to play an active role in (1) the education and training of practitioners, managers and leaders of forensic science organizations, (2) providing expertise for legislative initiatives at the state and national level, (3) supporting efforts for standardization of forensic analysis and accreditation of testing laboratories and (4) promoting the exchange ideas and information worldwide.



## Matthew Gamette

Idaho State Police Forensic Services  
700 South Stratford Drive  
Meridian Idaho 83642  
208-884-7217  
matthew.gamette@isp.idaho.gov

### Education:

- |             |  |
|-------------|--|
| 2011 – 2013 | Graduate—Idaho Certified Public Manager Program<br>2013                                      |
| 2011 – 2012 | Certificate—Forensic Management and Leadership<br>University of California at Davis          |
| 2009        | Graduate---Forensic Management Academy<br>West Virginia University                           |
| 2000 – 2003 | M.S. — Microbiology, Advisor: James B. Jensen Ph.D.<br>Brigham Young University, Provo, Utah |
| 1992-2000   | B.S. —Major: Zoology<br>Brigham Young University, Provo, Utah                                |

### Employment Experience:

- Idaho State Police Forensic Services Laboratory System Director, Meridian, Idaho 2014-present
  - Idaho State Police Forensic Services Laboratory System Quality Manager, Meridian, Idaho 2008-2014
  - Idaho Mass Disaster Planning Team Member, 2010-present
  - ASCLD/LAB ISO 17025 Assessor, 2009-present
  - NFSTC DNA Technical Auditor, 2006-2011
  - FBI NDIS Review Panel Member, 2006-present
  - MFRC TIMI Project Reviewer, 2010-present
  - Washington State Patrol Crime Laboratory Technical FS4, Spokane, Washington 2008
  - Washington State Patrol Crime Laboratory Crime Scene Responder, Spokane, Washington
- 2003-2008
- Washington State Patrol Crime Laboratory Forensic DNA Scientist (1, 2, 3) Spokane, Washington 2002-2008

- Washington State Patrol Crime Laboratory local backup CODIS manager, Spokane, Washington 2004-2008
- Utah State Crime Lab Intern, Salt Lake City, Utah, 2002
- Relative Genetics (Sorenson Genomics) Paternity Laboratory Researcher, Salt Lake City, Utah, 2002

**Prior ASCLD experience (previous Board member, committee member, meeting volunteer, etc.):**

- Current ASCLD Board member 2013-current (elected to fill vacant 2 year term)
- Co-chair Advocacy Committee 2014-current
- ASCLD CFSO Representative, CFSO Board Member, CFSO Vice-chair 2014-current
- ASCLD Treasurer 2014-current
- ASCLD representative on NIST OSAC Quality Infrastructure Committee 2014-current
- ASCLD Liaison with the American Bar Association 2014-current
- Education and Training Committee Member 2013-2014
- Advocacy Committee Member and POC (NW region advocacy POC) 2013-current
- Merchandise Committee Chair and ASCLD store coordinator 2013-current
- Annual symposium volunteer 2013, 2014, 2015

**If elected, I am interested in working on the following ASCLD issues/committees:**

CFSO and ASCLD Advocacy

- Coverdell funding and grant reform
- Sexual assault funding reform
- National forensic oversight legislation
- Rapid DNA legislation
- Coordination with CFSO members
- Coordination with ABA

Symposium planning

Training and Education

Finance Committee

**As a member of the Board, you may be asked to represent ASCLD at speaking engagements or develop written statements on behalf of the Board. How would you describe your ability to communicate ideas verbally and in writing?**

I am a skilled writer with specific interest and experience in technical and policy communication. In addition to my academic coursework in technical writing, I have taken several writing classes through my certified public manager and forensic management certificate programs. I develop a great deal of the external written communication and legislation for Idaho State Police Forensic Services, and maintained our internal policy and procedure manual. I also write the narrative portion of many of our grant applications. I communicate in writing regularly with prosecutors, law enforcement, legislators, other entities of government, and the public as part of my job. I developed and published a forensic newsletter that was published for several years in Idaho. I

have several scientific publications, including one second author publication in a peer reviewed journal.

I have academic education and training in public speaking and am very comfortable with verbal communication. I have presented and facilitated in a number of settings. I have presented before the Idaho legislature, scientific meetings and conferences, prosecutors meetings, training classes, and in the courtroom. I have presented technical information in DNA and crime scene training classes, and regularly present technical information about forensics to policy makers and public groups. I present my thoughts through lessons and sermons I deliver in my local church congregation. I particularly like teaching, mentoring, and coaching. I have training and education developing presentation materials and presenting material in a variety of forums. I am trained in creating course content and delivering training in Adobe Presenter, Adobe Connect, PowerPoint, and have created many instructional videos for delivering technical training.

**How committed are you to serving on the ASCLD board? What skills will you bring to the table?**

I have been and would like to continue to be heavily involved on the ASCLD Board. I believe in my two years on the Board I have engaged very actively in various committees and have taken a leadership role in the organization. I am willing to take on any assignment and have dedicated a great deal of time to addressing and resolving issues critical to ASCLD. I am extremely interested in working with the current ASCLD Board on issues impacting forensic science. I will contribute my energy and vitality to the important and complex issues currently facing our laboratories. Some of my core values are service, positivity, and collaboration. I believe there are potentially many solutions to any problem, and that we develop the best solutions through collaborative effort and communication. I further believe that we face many more problems with potential solutions than dilemmas without answers. I am eager to continue serving with the dynamic and visionary leaders on the ASCLD Board, and will continue my intense work ethic on the Board. I am excited about the emerging national direction of forensic science and have committed my full effort and enthusiasm to ensuring that local, regional, state, federal, and private laboratories are all represented in these discussions. As a member of the ASCLD Board I have served the membership in a variety of ways and am committed to continue reaching out to membership and providing critical information to them. I have completed management and leadership education at UC Davis, West Virginia University, and in the State of Idaho Certified Public Manager program. I bring to the Board a current knowledge of management and leadership theory, education, and training. My educational coursework and connections with colleagues bring vast educational and training resources to ASCLD. With my background in forensic DNA, crime scene analysis, and quality management, I bring an understanding of accreditation standards, emerging forensic issues, and developing technologies. I serve on national groups such as the NDIS review panel, NIST OSAC QIC, and CFSO. I am very interested in sharing ideas and illuminating good leadership, management, and laboratory practices in our forensic community through the ASCLD organization.

**What role should ASCLD play in developing a strong future for forensic science laboratories?**

It is critical for ASCLD to play a role in shaping the national discussion regarding accreditation, certification, laboratory practice, technology implementation and application, federal grant funding, and leadership education and training. The laboratory directors, managers, and supervisors comprising ASCLD are the cultural drivers for forensic science. ASCLD must lead the cultural awareness and vision in a quickly changing forensic environment.

ASCLD and CFSO need to remain actively engaged in representing the interests of all sizes and types of forensic laboratories as federal regulations and policies are developed. Through working in large and small public laboratories and in a private laboratory, I understand the vastly different vantage points that ASCLD must work to represent. ASCLD must continue to press for sustainable and strategically implemented federal funding for trustworthy forensic science and well-trained forensic scientists. The organization should continue to lobby for logical and practical legislation in collaboration with other forensic organizations. ASCLD should continue to push for sustainable funding for crime laboratories and federal grant reform. ASCLD should further a national vision of new research, application of developed technologies, and defense of current disciplines and methodologies.

Perhaps the most crucial role for ASCLD in the coming years is continuing to develop education and training for the next generation of laboratory leaders and managers. ASCLD must invest in developing the skills, talents, and abilities of those identified by their organizations as the leaders of the future.



## **Deborah A. Leben**

United States Secret Service  
245 Murray Drive, SE Building T5  
Washington, DC 20223  
202-406-5269  
Deborah.Leben@uss.s.dhs.gov

### **Education:**

- M.S.T.M      Master of Science in Technology Management, George Mason University, Fairfax, VA 22030
- M.F.S.        Master of Forensic Science, The George Washington University, Washington, DC 22052
- B.A.          Bachelor of Arts, John Carroll University, University Heights, OH; University of Akron, Akron, OH 44118

### **Employment Experience:**

January 2008– present  
Laboratory Director  
United States Secret Service, Forensic Services Division  
950 H Street, NW, Washington, DC 20223

Operational Oversight: Serve a staff of 45 laboratory professional, technical, and administrative personnel; 7 forensic contractors; and student interns, support over 160 field offices. Oversee a variety of specialized scientific examinations, forensic technologies, and evidence-related matters. Manage administrative and human capital initiatives. Partner with stakeholders in policy development, and long-term, strategic planning efforts regarding research programs, operations, technology modernization, human resources, and funding.

Program Management: Oversee 5 programs in coordination with 6 organizational directorates and 18 divisions/branches. Programs include biometrics, laboratory accreditation, information technology solutions, environmental safety, strategic planning, workforce diversity, laboratory safety and security programs, and scientific services. Develop and manage business continuity and disaster recovery plans for information systems.

Branch Chief – Forensic Automation                      October 2007 – January 2008  
United States Secret Service, Forensic Services Division  
950 H Street, NW, Washington, DC 20223

Modernize 2 major enterprise technology programs, manage and execute a multi-million dollar operational budget. Technically and administratively review forensic examinations in latent print examination and questioned document examination.

November 1991-October 2007

Fingerprint Specialist

United States Secret Service, Forensic Services Division

950 H Street, NW, Washington, DC 20223

**If elected, I am interested in working on the following ASCLD issues/committees:**

I do have an interest in research; however, I am interested in working on any of the committees that need the most support. My objective is to serve in the area that has the greatest need.

**As a member of the Board, you may be asked to represent ASCLD at speaking engagements or develop written statements on behalf of the Board. How would you describe your ability to communicate ideas verbally and in writing?**

I have experience in speaking / teaching opportunities. I have served in 13 elected and 14 appointed positions and have provided over 75 lectures and workshops to promote partnerships, collaboration and support towards professional certification. These positions are as follows:

National Commission on Forensic Science Subcommittees

Accreditation, Certification and Proficiency Testing

Human Factors

International Association for Identification

Chair – Forensic Management Committee

Chairman of the Board of Directors

President

1st through 4th Vice Presidential positions

Board of Directors and committee appointments

Standardization II Committee

Chair - Committee to respond to the NAS Report

Representative-National Law Enforcement Technology Committee

Committee to Define an Extended Fingerprint Feature Set

Editorial Review Board

Chair-Twins Research Committee

General and Innovative Techniques Committee

Chesapeake Bay Division of the International Association for Identification

Chairman of the Board of Directors

President

1st through 3rd Vice Presidential positions

Board of Directors and Editor

Department of Homeland Security  
Member-Biometric Coordination Group

Toastmasters International:  
Area Governor: Division D  
Lieutenant Governor of Education, Division D  
High Performance Leadership  
Vice President of Education  
Vice President of Public Relations

**How committed are you to serving on the ASCLD board? What skills will you bring to the table?**

I am committed to serving as a Board of Director in support of the ASCLD membership and have a history of serving on committees and leadership positions in organizations since 1993. I believe my experience and commitment to the forensic science community has broadened my perspective and awareness on the critical needs raised in multiple disciplines to include the challenges practitioners experience in their daily work and the administration of these specialized and technical areas.

**What role should ASCLD play in developing a strong future for forensic science laboratories?**

ASCLD has a unique opportunity serve as a nexus between laboratory's, law enforcement agencies, legislative initiatives and various organizations by creating an environment that will cultivate partnerships, promote shared services, and initiate organizational change. Through this network, ASCLD can offer leadership and training that will encourage professionals to expand their capabilities through public/private networks, enhance technologies through research and innovation, and strengthen their overall commitment to serve the public good.



## **Christian G. Westring, Ph.D.**

NMS Labs

2300 Stratford Avenue, Willow Grove, PA 19090

(215)366-1380

christian.westring@nmslabs.com

### **Employment Experience:**

- DNA Technical Leader, Department of Forensic Genetics, Institute for Legal Medicine, Copenhagen, Denmark
- DNA Technical Leader, Department of Forensic Biology, NMS Labs
- Laboratory Director, Criminalistics, NMS Labs

**Prior ASCLD experience (previous Board member, committee member, meeting volunteer, etc.):**  
2014 and 2015 meeting planning committees

### **If elected, I am interested in working on the following ASCLD issues/committees:**

Education & Training Committee, Forensic Research Committee, Membership Committee, and Symposium Planning Committee

**As a member of the Board, you may be asked to represent ASCLD at speaking engagements or develop written statements on behalf of the Board. How would you describe your ability to communicate ideas verbally and in writing?** As practitioners in the forensic community, it is critical that we develop the requisite skills necessary to disseminate both written and oral presentations to a varied audience. In particular, laboratory managers are tasked with delivering key messages both internal and external to ones parent organization. These may come in the form of forensic reports, quality statements, or other public announcements that necessitate confidence and clarity in delivery. Considering the impact we have within the forensic community, our local government(s), and/or on a national plan, the effectiveness of our delivery is paramount. Understanding the value in strong leadership, I continue to hone and develop these skills to confidently and effectively deliver both written and verbal presentations to my target audience.

**How committed are you to serving on the ASCLD board? What skills will you bring to the table?** As an active contributor to the forensic community on several fronts, I'm prepared to serve on the ASCLD Board of Directors. Given its history, ASCLD continues to play an integral role in education, leadership, and quality in the forensic sciences. With more than 15 years of experience in forensic science, I've held a wide range of positions in academia, public service, and private sector forensics. These experiences have provided the opportunity to explore some of the unique challenges we face as the development of the forensic sciences continue to progress into the 21st century. As a result, I am confident that my experiences at home, and abroad, will supplement the Boards mission as it continues to deliver on its core values.

**What role should ASCLD play in developing a strong future for forensic science laboratories?**

Given the changing climate within the forensic sciences, ASCLD should continue to play a strong role education, training, leadership, and quality. With formation of the newly formed OSACs, ASCLD should play an integral role in supporting the mission to develop scientifically based standards within the each discipline in the forensic sciences. While the development of standards may not be with the core objectives of the ASCLD organization, the forensic community will look for strong leadership as we transition into the next generation of forensic sciences. This will not only strengthen the forensic community as a whole, but also emphasize the need for continuous improvement. As this becomes a new core objective for the community, ASCLD's historical role in training and education will become ever more prevalent.

---

---

# ASCLD POSITION STATEMENT

---

---



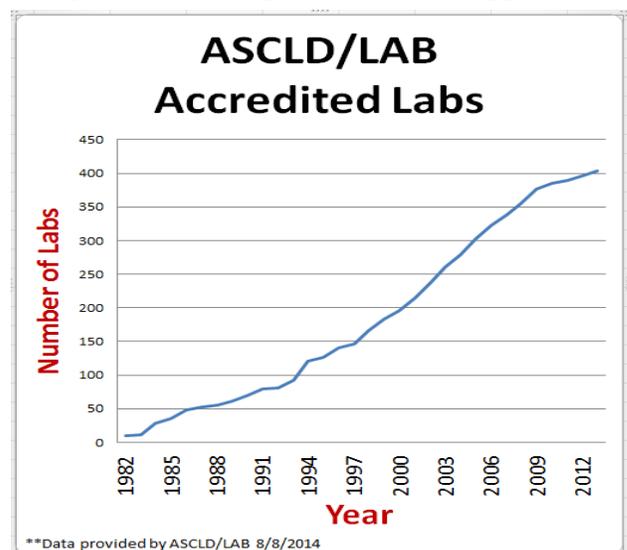
A Statement by the ASCLD Board of Directors

## Accreditation

ASCLD believes all forensic science providers need to seek, obtain, and maintain accreditation in all applicable testing or collecting activities. Accreditation of forensic science providers is an essential quality component due to the critical role forensic evidence frequently plays in determining guilt or innocence. Accreditation to either the ISO/IEC 17025 or 17020 based international standards provides confidence and assurance to a parent organization, its employees, the criminal justice community, and the public that the operation can meet comprehensive forensic quality and management system requirements.

ASCLD further believes the accreditation of forensic providers must be conducted by qualified accrediting entities with expertise in developing, utilizing, and enforcing standardized supplemental requirements that are relevant to forensic science providers. Those accrediting entities themselves should be recognized by relevant international accrediting organizations.

ASCLD recognizes that while over 400 U.S. forensic science providers have obtained accreditation from qualified and competent accrediting bodies, including more than 83% of all publicly funded forensic science providers,<sup>1</sup> the associated costs of accreditation itself and implementation of required programs such as external proficiency testing have prevented the goal of universal accreditation. In order to achieve universal accreditation, appropriate funding must



<sup>1</sup> 2009 Census of Publicly Funded Crime Laboratories; <http://www.bjs.gov/index.cfm?ty=pbdetail&iid=4412>

be dedicated to this endeavor.

ASCLD encourages lawmakers, policymakers, and stakeholders to strengthen forensic science by developing effective and sustainable accreditation funding and support mechanisms for the wide array of forensic science providers of all sizes in all units of government. This recommendation includes those organizations and agencies that may be located outside of the traditional crime laboratory structure but provide forensic services in crime scene processing, digital evidence, impression evidence and other related forensic science disciplines. Furthermore, any accreditation requirements that apply to public forensic science practitioners must also apply to private laboratories and scientists who engage in forensic activity by performing examinations or reviews, writing reports, or providing testimony in court, whether on behalf of the prosecution or the defense.

ASCLD Board of Directors  
August 20, 2014

# Transformational Leadership Can Meet Big Challenges in Forensic Laboratories

*By Ryan Larrison*

*Forensic Science Division – Bridgeport Laboratory Director*

*Michigan State Police*

If you ask most laboratory managers whether or not they have a high performing team, it is likely that most will reply that they do. Forensic labs are full of people who believe in service, love their jobs, and want to make a difference. This is a recipe for success. Laboratory work, however, can become “mired” in the routine. The nature of repeated scientific testing and a draconian adherence to policy can cause the worksite to feel stale, whether anyone would like to admit it or not. There is nothing wrong with being in a "comfort zone" for a high-performing team that is in the sweet spot; it is just that when things go downhill in this business, you can quickly find yourself and your team treading water while holding a brick.

Enter the "Big Problem." Imagine that your laboratory, with its binky-like comforts of day-to-day normalcy, is confronted with a massive challenge. By their very nature, challenges demand change. No one likes change. Many people despise it. Change at a worksite can cause high-performing followers and management to experience anger, frustration, and even complete disengagement from the team itself. Most crime labs these days find themselves with backlog pressures and productivity expectations that result in employees feeling stressed and disillusioned to begin with. Abrupt, massive changes can potentially cripple your worksite should you prove to be inadequate in your response to the Big Problem.

As a manager, you are responsible for the team. Whether you like it or not, it is your job to actively create the workplace atmosphere, monitor morale, manage productivity, and inspire your team toward the goals that you have identified. If the outgoing lab director told you "Don't worry, this place runs itself," and you just let it "run itself" before and after a catastrophic event, it will run itself alright....face-first into the ground.

When faced with a Big Problem, nearly every laboratory manager possesses the wits and wisdom to at least formulate a sufficient response. This is the easy part. The difference between success and failure for the manager in times of great adversity will be in their ability to lead.

In these difficult circumstances, the first problem top management will have is not with the response, but rather in motivating those who will execute the response to both accept the cure as plausible, and to pledge their assistance.

That moment is what this article is all about. There are two general types of leadership which are utilized at times like this. One is *transactional leadership*—the “If you do this, I’ll give you this” style. The other is *transformational leadership*. Both can work, but here is the thing: as government entities, crime labs can’t really “give” much to the employee to begin with. When the employee is asked to step up to the plate to help solve your Big Problem, what are you going to give them? What could you possibly promise them financially or materially? This is why I will spend the rest of this article telling you what I have found to be true of crime labs in crisis mode when it comes to leadership.

### **Transformational Leadership in Forensic Laboratories**

Most of us “kind of” know what transformational leadership is. Transformational leaders are loosely defined as those who appeal to a follower’s sense of values beyond their own personal interest. (1) See how that fits with the forensic staff described earlier in the article? They are people who usually care deeply about the mission. As a public servant, there is little they can get materially for their efforts, and no one wants to be hit in the hind end with a stick every day during challenging times. These “Great People,” however, will respond strongly to an emotional appeal that is connected by the leader as being the Right Thing to Do.

Transformational leadership is further defined as a leadership style where the leader is a role model, they motivate their team to commit to an appealing vision, they encourage innovation and creativity by helping the team view problems from new perspectives, and they act as coaches and advisors to individual team members in a caring way. Some of us unfortunately confuse transformational leadership with charisma. Don’t. Charismatic people are rare. Transformational leaders are not. You do not have to be charismatic to be a transformational leader. I can’t tell you exactly how to be a transformational leader, but I can tell you that it will be difficult for certain people to utilize this style. People with traditional, rigid views on leadership will not feel comfortable with it. Similarly, people who are not at least a little bit extroverted will have difficulty executing transformational leadership.

My experiences have shown me that when it comes to dealing with Big Problems, transformational leadership can be extraordinarily effective. I have watched other leaders quietly practice it over the years to great effect. I made a decision several years ago when taking my first management job during a time of difficulty to make an attempt to practice transformational leadership. I have found that it has helped me and my team get through some very rough waters while maintaining strong interpersonal bonds within the team. Indeed, one advantage with transformational leadership is the propensity for followers to practice some of the same behaviors as the transformational leader. In contrast, I have also had the misfortune to watch problems that shake up a worksite or team be handled by the manager with no attempt at all to install a vision or effect any solutions. You can imagine how well that has worked.

A lack of vision-oriented leadership can stifle creativity, innovation, and can also prevent you and your staff from going outside your comfort zone at times of opportunity. Transformational leadership, on the other hand, seems to be tailor-made for harvesting opportunities, even while effectively dealing with emergencies. It connects your team emotionally to the goal and to each

other. It empowers them. It encourages them to seek solutions and act freely on them. It is extremely effective.

It has been said that in times of adversity, great opportunities can be found. In public service, adversity will frequently come and go. During those critical days when adversity strikes, you need to identify your vision and your opportunities. You need to search for opportunities not only for your organization, but especially for your people. You need to connect your team to these opportunities, and you need to go after them thoughtfully and yet without hesitation. If you have been lulled to sleep in your everyday lab world, and you lack mutually advantageous relationships outside your worksite, you will need to actively remedy this. This is particularly important, because many opportunities exist outside of the walls of your lab that can be secured during times of challenge and change. Here are some examples of opportunities that my team has secured during times of serious adversity:

- an increased budget
- opportunities to teach (most of my employees love teaching local law enforcement, and look at it as a rewarding experience)
- innovative streamlining
- increased facility size and quality
- increased personnel (hiring)
- a much higher level of influence and trust with all of the partners within our region
- recognition and awards for phenomenal work
- and most importantly: more opportunities to positively affect the criminal justice system by providing quality forensic assistance in areas that we had not participated before.

Transformational leadership is very effective at times of change and uncertainty, but it is also effective in dealing with mediocrity, particularly for the manager who is taking over a stale or uninspired team. In my opinion, the two most opportune times to begin practicing transformational leadership are when you first take a management position, and when encountering a Big Problem. That said, I am pretty sure that I will always practice transformational leadership for the rest of my life. It can create trusting, solid relationships while getting the very best out of everyone you involve yourself with. What's not to like about that?

This article is much too short to discuss how to specifically employ transformational leadership in your laboratory, but the information is out there. I suggest strongly that as a leader, you would be doing yourself a favor by at least academically examining transformational leadership. Good luck and good managing!

## **Reference**

- 1 IACP's Leadership in Police Organizations Vol. 2

# Computer Simulation Modeling of Forensic Laboratory Operations

*George Herrin, Jr., Ph.D.*

*Georgia Bureau of Investigation-Division of Forensic Sciences*

*John Speir, Ph.D.*

*Applied Research Services, Inc.*

Forensic laboratory directors and managers routinely make decisions on personnel, instrumentation levels, and operational processes in an effort to improve timeliness or increase throughput in the laboratory. Faced with these decisions, laboratory directors rely on experience and advice from subject matter experts in the particular forensic discipline. Modeling operational processes with software simulation tools is a technique widely used in retail and health care industries, and the forensic science laboratory has features in common with both of these industries in that it serves a customer base that desires timely, accurate results. The level of incoming evidence is not controlled by the laboratory, but rather by customer demand, and there is a requirement to accurately analyze that evidence as quickly as possible.

This paper describes the development of a simulation model of the Headquarters Toxicology section of the Georgia Bureau of Investigation – Division of Forensic Sciences (GBI Crime Lab) using discrete-event simulation models. The toxicology service performs analysis in blood alcohol and ante- and postmortem toxicology, releasing nearly 20,000 reports annually to law enforcement and other criminal justice agencies. The purpose behind developing the model was to gain a better understanding of the staffing needs required to complete the analyses in the time frame desired by the customer base.

### **Introduction**

The Georgia Bureau of Investigation – Division of Forensic Sciences is the primary provider of forensic analyses in the State of Georgia and is the only toxicology analysis provider. As such, in 2014 the headquarters laboratory received over 21,000 requests for toxicology analysis on more than 13,000 cases. The laboratory has a goal to complete 90% of the blood alcohol and toxicology analysis reports in less than 45-days. The laboratory has 25 trained scientists and is equipped with state-of-the-art test instrumentation. With current staffing levels and laboratory processes, it is not possible to achieve the 45-day service target without additional staffing and selected process re-designs. Forensic laboratory managers routinely make decisions about personnel, instrumentation levels, and operational processes to improve timeliness or increase throughput in the laboratory. However, these decisions are often based on professional experience and a holistic understanding of the complex inter-play among the diverse factors responsible for case throughput. Publically

funded forensic laboratories have limited options and opportunities to increase staffing and upgrade or procure new instrumentation when faced with a backlog. At the same time, the laboratory managers want to avoid undertaking sweeping process re-designs without data that proposed changes will improve efficiencies without causing costly and counter-productive system delays.

Unfortunately, conventional tools cannot disentangle the complex interaction among factors in the laboratory environment: hiring/retention of trained scientists and technicians, instrumentation (replacement and upgrades), accreditation standards, annual case intake, staff availability—impacted by court appearances, training, and instrument maintenance duties—and priority cases. At the same time, the average number of drugs observed per sample continues to increase as the prevalence of individuals using multiple prescription and/or illicit drugs increases, resulting in more demands on the analytical process. The system dynamics, coupled with limited public resources, has made it difficult to improve enhance system efficiency to achieve service objectives in today's publicly funded laboratories.

Discrete-event simulation (DES) is one software tool available to directors to understand, monitor, and predict laboratory dynamics. This type of software mimics the operational process of a complex system on a computer to better understand the interaction of the people, technology, and infrastructure within the laboratory. DES models provide an experimental platform to ask “what if” scenarios to help guide process re-design, technology procurements, requests for additional staffing, and staff scheduling without actually incurring the costs and risks of implementing those changes. These models are best suited for processes where uncertainty characterizes the system and where there is a complex relationship among scientists and staff, processes, and infrastructure.

Although the manufacturing sector has historically relied on DES modelling, the demand for increased efficiency in health care over the past decade has spawned an entire industry dedicated to DES models in both clinical and laboratory settings (Gunal and Pidd, 2009, Brailsford, et. al., 2009, Nielsen, 2008). Health care managers can make informed, risk-free assessments about the efficacy of proposed improvements and budgetary outlays without the need for unnecessary costs or operational disruptions. Today, DES is used to create models for the design and staffing, instrument sterilization processes, and paperwork flow of emergency rooms, laboratories, and outpatient clinics.

The GBI Crime Lab embarked on a project to model the operations within the Headquarters Toxicology section. The primary purpose of this model was to determine appropriate staffing levels for this section and anticipate expected impacts of additional staffing on report timeliness prior to approaching budget or policy makers requesting additional positions for the laboratory. A secondary objective was to identify potential bottlenecks within the laboratory's processes that could be addressed through operational changes to improve laboratory performance. The project to develop the model using the Simul8 software was funded by sub-grant F13-8-001 awarded to the GBI Crime Lab under the FY13 Paul Coverdell Forensic Science Improvement grant program (2013-CD-BX-016) administered by the National Institute of Justice.

## Materials/Methods

For the project, the GBI used Simul8 as the DES software platform. It has a number of features that are suited for complex projects, including supports for a wide range of extensive probability distributions, and a programming language (Visual Logic) which is both intuitive and powerful enough to implement complex rule structures such as those required in the toxicology laboratory.

Planning the simulation model is the most important step. Banks, Carson, and Nelson (1996) recommend a specific algorithm to build simulation models, which has become the de facto industry standard to design and test real world processes. The first step is to establish a detailed plan describing specific simulation model objectives. Given the almost unlimited capabilities of discrete-event models to mimic a system, establishing clear objectives and system boundaries is essential. As at all accredited forensic laboratories, there are not only specific scientific tests to follow, but quality requirements associated with laboratory accreditation which dictate additional policies and processes. Consequently, neither significant process re-engineering nor work-around processes may be feasible. Therefore, the project team focused on modeling tasks, staffing, and operating rules over which the laboratory manager has direct control. Consideration was given to such areas as staff hiring and retention, staff availability, scientific specialties of lab staff, instrument capacity and reliability, and cross-training. The project team identified seven questions and objectives to guide initial model development:

1. How does staffing affect overall case throughput and timing, and what is the optimal staffing level to achieve established targets?
2. How does the increase in drug prevalence (poly-drug) testing impact cases in terms of throughput and timing?
3. How does an increase in the number of drugs identified in a sample impact case throughput?
4. Is there sufficient instrumentation to support higher staffing levels?
5. Is it cost-effective to purchase instruments with higher capacity to increase throughput? If so, what is the marginal increase?
6. What is the optimal number of scientists required who have specialized sample extraction proficiency to increase case throughput and timing?
7. What is the effect of staffing changes and court time on case throughput and timing?

To answer these questions, the team built a backbone model to mimic the exact flow of cases with significant precision to achieve the objectives listed above. This approach ensures that the model drills down sufficiently into the system to replicate the real world outcomes but not burden the initial model with unnecessary detail. Over-modelling the initial process, defined as inclusion of every minor subtask and process activity, can cause development delays while making it almost impossible to debug and validate the model.

The model was built with two distinct pathways, one for toxicology analyses and the second for blood alcohol analyses. The determination to only use two pathways was based on the fact that toxicology DUI and postmortem toxicology analyses utilized essentially the same analytical

pathways and procedures. The potential exists to separate those two types of analysis at a later time so that specific staffing or process changes can be evaluated.

The principal building blocks in the backbone of the toxicology model include the receipt of specimens, logging case information, initial screening with the Liquid Chromatography/Mass Spectrometry / Mass Spectrometry (LCMSMS), sample extraction (by extraction type), data acquisition using appropriate instrumentation (LCMSMS, Gas Chromatography/ Mass Spectrometry (GCMS), and Headspace Gas Chromatography (HSGC), data processing, analysis and interpretation, consolidation of aliquot findings, report writing, peer review, and re-processing of inconclusive findings. In addition to testing, the model has to perform other tasks, including creation/batching of aliquots, setting-up and loading instruments, consolidating sample types, splitting samples, and eventually re-merging case findings into one report. At the same time, the model assigns resources and follows timing and operational parameters established by laboratory management.

Each simulation run using the model incorporated the following parameters: number of samples received by the laboratory in a given time interval, number of scientists available for toxicology or blood alcohol analysis, number of scientists assigned to specific types of sample extractions, and batch size for sample screening and extractions. Prior to beginning actual data collection for metrics, the model was designed to run for approximately 60 simulation days to 'pre-load' the system with samples, extractions, data analyses, and reports so that the model results would more accurately reflect a laboratory that is already operating rather than one that has essentially zero samples currently in process.

### **Results and Discussion**

Building a discrete-event simulation model requires data collection and analysis to help establish the parameters that will be used in the model. The amount of data collection will vary depending on the complexity of the model. Timing data was gathered from professional experience and administrative reports. This data included estimates on the number of monthly Postmortem (PM), Driving Under the Influence (DUI), and Blood Alcohol Content (BAC) cases acquired, intake review and information logging times, screening instrument set-up times, sample extraction times by test type, the number of possible sample extractions per day, and time left in day allotted to sample extraction to ensure aliquots are submitted to data acquisition after sample extraction. This involves LCMSMS, GCMS, and HSGC setup times; instrument capacity; data acquisition run-times; and time expended on data processing and analysis.

After the model is validated, the basic model can be expanded, if necessary, to include all remaining model components and decision sub-processes subsumed under larger processes. Validation is achieved when the model can produce outcome metrics that mirror administrative reports about actual operations of interest; in this case, throughput and aging. At this point, the modular design method makes it easier to test and validate each module before incorporating it into the larger model. As each module is validated, another layer is added until the desired level of detail is finally incorporated. The decision to add more detail is driven in large part on bottleneck

analyses. For example, if a major task (extraction) is responsible for excessive backlog, this one task (module) can be expanded to include additional sub-tasks needed to identify the cause of unexplained delays.

Other details included the number of qualified scientists, sample extraction specialists, use of laboratory technicians, instrument capacity/availability, instrument set-up times, staffing patterns, sample extraction and instrument processing times, staff availability (training, court, etc.), specialized experience and training (division of labor), and mandated standards regarding the analysis and drafting of reports and report peer review, as well as reprocessing inconclusive findings and handling negative findings.

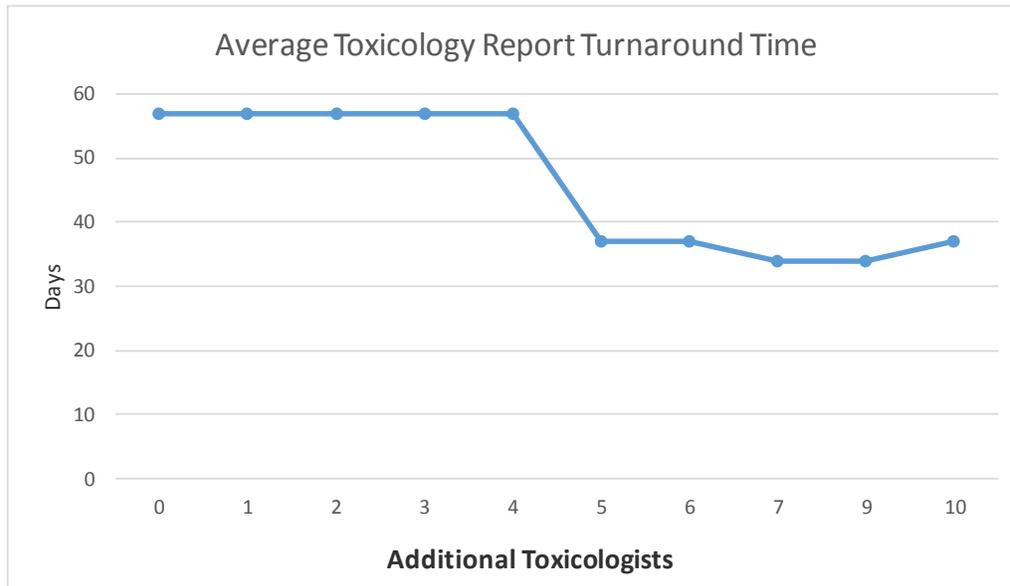
The project team used an experimental design to test the model under multiple scenarios to evaluate model validity. Scenarios were designed to assess the system under normal operating conditions with current staffing levels and sample inputs using prior administrative reports as a baseline and in order to determine whether the model outcomes mirror existing empirical data about case aging and throughput. The results of these initial simulations confirmed that the model was reproducing sample throughput and report turnaround times that were essentially consistent with actual laboratory performance. Examining the results of these baseline runs determined that the utilization levels of scientists within the model was much higher than is desirable, given the fact that the model is not taking into account all of the miscellaneous activities that scientists are involved with such as training, instrument maintenance, and other quality assurance activities within the laboratory. The utilization of the scientists assigned to blood alcohol analysis exceeded 90%, and the toxicology scientists generally exceeded 80% in the baseline trial of the model. A more reasonable expectation would be less than 80% utilization in both instances. The average turnaround time for toxicology reports was evaluated when the staffing levels are adjusted within the model to account for additional scientists. The model accurately generated results for the toxicology turnaround times that are currently experienced at the GBI Crime Lab. Figure 1 depicts the results of adding additional toxicology scientists to the section and their impact on average report turnaround time. It was interesting to note that when the additional toxicologists were not assigned to specific extraction types and were allowed to only assist in data analysis, reporting etc., there was very little impact on the turnaround time until 5 additional scientists were available. If the additional toxicologists were assigned to assist with one or more of the sample extraction processes that are most frequently performed in the laboratory, then the positive impact began to be observed after the addition of only 4 scientists (data not shown).

Often, laboratories determine that a lack of available instrumentation is a primary cause of reporting delays and process bottlenecks. The model confirmed that the GBI Crime Lab had sufficient instrumentation in place to avoid that particular issue, unless a significant fraction of the instruments were taken out of service simultaneously for repairs or maintenance.

The continued refinement and use of this model will enable the GBI Crime Lab to proactively predict the potential impact of increasing caseloads, an increase in the number of drugs per sample, and changes in staffing or operational processes. Although computer modelling is not a

replacement for good overall management practices, it does provide an additional tool to forensic laboratory managers in developing data so that more informed decisions can be made by policy makers regarding budget and personnel allocations.

**Figure 1**



**Figure 1: Impact of adding additional toxicologists to report turnaround time. In each trial of the simulation model, additional toxicologists were added to the staffing and assigned a specific type of extraction process as their specialty.**

## References

- Banks, J. 2000. Introduction to Simulation in the Proceedings for the 2000 Winter Simulation Conference. J.A. Joines, R. Barton, K. Kang, and P.A. Fishwick, eds.
- Banks, J. 1998. Handbook of Simulation: Principles, Methodology, Advances, Application, and Practice (Edited). New York: Wiley Series, Inc.
- Banks, J. 1996. Software for Simulation in Proceedings for the 1997 Winter Simulation Conference. J. Charnes, D. Morrice, D. Burrner, and J. Swain, eds.
- Banks, J., S. Carson, B.L. Nelson. 1996. Discrete-Event Simulation, 2nd Ed. Upper Saddle River, NJ: Prentice Hall.
- Brailsford, S.C. Lattimer, V.A., Tararas, P., and Turbull, J.C (2009) Emergency and on-demand health care: modelling a large complex system. Journal of the Operational Research Society (2004) 55, 34–42.
- Gunal, M.M. and M Pidd (2009) Discrete-event simulation for performance modelling in health care: a review of the literature. Journal of Simulation 4, 42-51.
- Nielsen, A.L, Hailwing, H. Kissoon, N, and Teelucksin (2008) Discrete event simulation as a tool in optimization of complex adaptive systems. Studies in Health Technologies and Informatics 136, 247-252
- Schriber, T.J. and D.T. Brunner. 1998. How Discrete-Event Simulation Works in Handbook of Simulation. New York: John Wiley & Sons.

# 2015 Leadership Academy

## By the Numbers

- ▶ **69** Total Students
- ▶ **40** Hours of Instruction Each
- ▶ **19** States represented
- ▶ **3** World-class Instructors
- ▶ **1** Goal: Developing Leaders



The 2015 Leadership Academy is underway. The above graphic shows the breakdown of attendees who are currently in the academy. The final capstone session will be held onsite on Sunday and Monday of the annual ASCLD symposium.

