FORENSIC SCIENCE ERROR MANAGEMENT

INTERNATIONAL FORENSICS SYMPOSIUM

JULY 20-24, 2015 • WASHINGTON, DC

NIST National Institute of Standards and Technology • U.S. Department of Commerce

Section 1.

Table of Contents

SECTION 1.
Table of Contents

SECTION 2.
About the Symposium
General Information
Registration, Exhibits, and Posters Hours
Press, Media, and Badges
Attire; Wireless; Photo/Video; Questions

SECTION 3.
Symposium Agenda at a Glance

SECTION 4.
Symposium Descriptions

SECTION 5.
Keynote & Plenary Speakers

SECTION 6.
Detailed Symposium Agenda

SECTION 7.
Oral Presentation Abstracts

SECTION 8.
Poster Presentation Abstracts

SECTION 9.
Sponsors

SECTION 10.
Exhibitors

SECTION 11.
Host City & Meeting Facilities

Section 2.

About the Symposium

On behalf of the National Institute of Standards and Technology (NIST) and its partners, have organized the first-ever international symposium devoted exclusively to the topic of forensic science error management, “The International Symposium on Forensic Science Error Management – Detection, Measurement and Mitigation.” The symposium takes place in Washington, DC, July 20-24, 2015.

Speakers, panels and posters addressing the ways to detect, measure and mitigate forensic science errors will open dialog about these taboo topics. The symposium promises to be an eye-opening candid appraisal of root causes and possible solutions to help identify and reduce forensic science errors.

The technical program will cover eight tracks: death investigation, crime scene investigation, human factors, criminalistics, digital evidence, legal factors, quality assurance and laboratory management. Each track will consist of plenary lectures, poster sessions and panel discussions.

Organizing Committee Officers:
Mark Stolorow, Chair
Robert Thompson and Martin Herman, Technical Program Co-Chairs

Committee Members:
Marcella Navarro Brown, John Butler, Michael Coble, Barbara Guttman,, Donna Kimball, Mary Lou Norris, John Roberts, and Jessica Staymates, NIST

General Information

Registration and Information Desk Hours — North Tower – Crystal Ballroom Foyer

— Monday – 07:30-1700
— Tuesday – 07:30-1700
— Wednesday – 10:00-12:00; 1300-1600
— Thursday – 07:30-1700
— Friday – 07:30-1000

Exhibit Location and Hours—Lobby Level

— Tuesday – 13:30-1700
— Wednesday – 10:00-12:00; 13:00-1600

Poster Location and Hours — Washington Ballroom — POSTER SESSION, Tuesday, 1330-1500

Tuesday—Poster Session, 1330-1500
Wednesday—On Display Only
Thursday—On Display Only

Press/Media Check-in
Check-in at the Registration desk. Press must wear their press credentials at all times.

Badges
Badges must be worn at all times while attending sessions or special events.

Attire
Symposium attire is business casual

Agenda Changes
Agenda changes will are posted at the Registration Desk and on the Symposium website.

Access
Symposium attendees may enjoy complimentary wireless access in all meeting rooms and public spaces.

Photography and Video Recording
All General Sessions at the Symposium are being recorded and as an attendees you waive the right to inspect or approve the finished product wherein your likeness, name, image, and sound of voice appears. Presenters will be provided a waiver for concurrence.

Questions?
If you have any questions or special needs, please visit the registration desk during the hours posted above and someone will assist you.

Section 3.

Symposium Agenda at a Glance

Symposium Agenda at a Glance

Date/Time	Event	Location –
Monday, July 20, 2015		
12:00-17:00	Exhibit Setup	TBD
16:00-20:00	Registration	Crystal Ballroom Foyer

Tuesday, July 21, 2015		
7:30-17:00	Registration	Crystal Ballroom Foyer
13:30-17:00	Exhibits Open	TBD
TBD	Posters Open	Washington Ballroom
GENERAL SESSIONS		Salon A/B
8:30-9:00	Welcome/Opening	Salon A/B
9:00-10:00	Keynote Addresses: Brandon Mayfield, Law Offices of Brandon Mayfield Steven Wax, Legal Director, Innocence Project Oregon	Salon A/B
10:00-10:45	Plenary Address: - Gillian Tully, UK Forensics Science Regulator – UK Home Office "Learning From Errors"	Salon A/B
10:45-11:15	Break (On Your Own)	
BREAKOUT SESSIONS		North and South Tower
11:00-12:00	Breakout Sessions – Track Areas	North and South Tower
12:00-13:30	Lunch (On Your Own)	Hotel, Local Restaurants
13:30-15:00	Breakout Sessions – Track Areas Continued	North and South Tower
15:00-15:30	Break (On Your Own)	
15:30-17:00	Breakout Sessions – Track Areas Continued	North and South Tower
17:00	Symposium Conclusion for the Day	

Symposium Agenda at a Glance

Date/Time	Event	Location – Subject to Change
Wednesday, July 22, 2015		
7:30-17:00	Registration	Crystal Ballroom Foyer
10:00-12:00 13:00-16:00 TBD	Exhibits Open	TBD
	Posters	Washington Ballroom
GENERAL SESSIONS		Salon A/B
8:30-9:00	Opening	Salon A/B
9:00-9:45	Plenary Address: - Scott Shappell, Chair, Department of Human Factors and Systems - Embry-Riddle Aeronautical University "The Impact of Shiftwork and Fatigue	Salon A/B
9:45-10:30	Plenary Address: - Itiel Dror, Sr. Cognitive Neuroscience Researcher - University of College London "Cognitive Sources of Error and Ways to Minimize Them"	Salon A/B
10:30-11:00	Break (On Your Own)	
BREAKOUT SESSIONS		North and South Tower
11:00-12:00	Breakout Sessions – Track Areas	North and South Tower
12:00-13:30	Lunch (On Your Own)	
13:30-15:00	Breakout Sessions – Track Areas Continued	North and South Tower
15:00-15:30	Break (On Your Own)	
15:30-17:00	Breakout Sessions – Track Areas Continued	North and South Tower
17:00	Symposium Conclusion for the Day	

Symposium Agenda at a Glance

Date/Time	Event	Location –
Thursday, July 23, 2015		
7:30-17:00	Registration	Concourse
GENERAL SESSIONS		Salon A/B
8:30-9:00	Opening	Salon A/B
9:00-9:35	Plenary Address: - Alastair Ross - Director, National Institute of Forensic Science - Australia-New Zealand Policing Advisory Agency (ANZPAA) "The Source of Errors: Systems, Policy	Salon A/B
9:35-10:10	Plenary Address: - Bryan Found - Chief Forensic Scientist - Victoria Police Forensic Services Department "To Err Was Forbidden: The Changing Culture of Error Explanation in Forensic	Salon A/B
10:10-10:45	Plenary Address: - Ralph Kleuskens - Manager - Quality and Process Management - Netherlands Forensic Institute (NFI), "Quality Improvement Through Incident and Error Management"	Salon A/B
10:45-11:00	Break (On Your Own)	
BREAKOUT SESSIONS		North and South Tower
11:00-12:00	Breakout Sessions – Track Areas	North and South Tower
12:00-13:30	Lunch (Meal Plan or On Your Own)	Hotel, Local Restaurants
13:30-15:00	Breakout Sessions – Track Areas Con-	North and South Tower
15:00-15:30	Break (Meal Plan or On Your Own)	
15:30-17:00	Breakout Sessions – Track Areas Con-	North and South Tower
17:00	Symposium Conclusion for the Day	

Symposium Agenda at a Glance

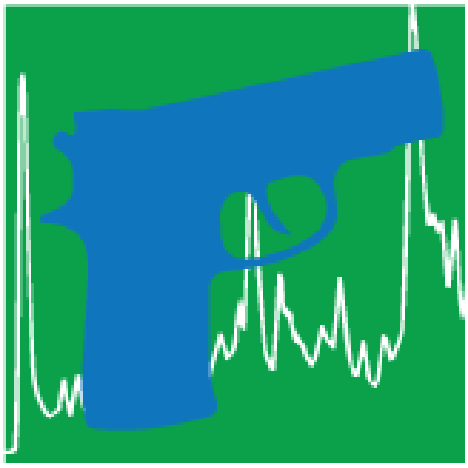
Date/Time	Event	Location – Subject to Change
Friday, July 24, 2015		
7:30-10:00	Registration	Crystal Ballroom Foyer
GENERAL SESSIONS		Salon A/B
8:30-9:00	Opening	Salon A/B
9:00-9:45	Plenary Address: - William Thompson - Department of Criminology, Law & Society - University of California-Irvine "Error Management for Forensic DNA Testing: Lessons from Known Errors and Close Calls"	Salon A/B
9:45-10:30	Plenary Address: - Lynn Robitaille Garcia - General Counsel - Texas Forensic Science Commission "The Importance of Trust and Collaboration in Tackling Forensic Problems: Lessons from the Lone Star State"	Salon A/B
10:30-11:00	Break (On Your Own)	
11:00-12:00	General Session Moot Court	Salon A/B
12:00	Symposium Concludes	

Section 4.

Panel Descriptions

Improving Fire Investigations through Science, Best Practices, and Transparency

A major challenge for the community nationwide is to ensure current science and best practices are used consistently in fire investigations, regardless of jurisdictional resources. Attendees will learn about the tremendous transformation that occurred in the Texas State Fire Marshal's Office (SFMO) in an attempt to achieve consistency in applying best practices throughout the State.



You Want Us To Do WHAT? Conducting a Retroactive Review of Hair Microscopy Cases as a Matter of Shared Ethical and Professional Duty

On July 18, 2013, DOJ announced it would review cases involving hair microscopy analysis, testimony & reports provided by FBI examiners before December 31, 1999. The DOJ recognized some FBI examiners had exceeded the limits of science by overstating conclusions that may be drawn from a positive association between evidentiary hair and a known hair sample. Attendees will learn how the Texas Association of Crime Laboratory Directors responded by publicly acknowledging their shared "ethical and professional duty, as scientists, to take appropriate action if there has been a miscarriage of justice."

Bridging the Gap Between Black Box/ White Box Research and Implementation in Latent Print Casework

Since 2011, FBI and Noblis have published several papers related to Black Box/White Box latent print research. Implications or recommendations on latent print business processes can be drawn from research to include blind verification, standardization of minutia mark up, decision thresholds etc., Are the various LPUs dealing with these recommendations? How? Are these recommendations practical or intangible?

Section 4.
Panel Descriptions

Speech Chain Analysis for Speaker Recognition Systems and Likelihood Ratios to Express Score Probabilities Under Competing Hypotheses

Speech chain analysis could become an important systems engineering tool for assessing and managing the source of errors in the design of speaker recognition systems. Speaker recognition systems are designed to gather information opportunistically from sometimes-uncontrollable environments via available technologies, which place a strong requirement on the analytic tools and personnel since the opportunity to recapture voice samples after the fact is non-existent. By mathematically modeling the speech energy/signal process of the entire speech chain, from the human source to the analysis of the resultant digital data, various speech capture ….

Understanding the Relevance of Error Rates in a Digital World

Like other forensic disciplines, digital evidence is prone to errors from several sources, including analyst errors, technique limitations, and imperfect software tool implementations, sometimes referred to as systematic errors. However, with proper quality assurance procedures in place, errors of this type can be recognized and potentially mitigated. Another type of error can be described as random in which a process produced error can be evaluated by a statistical rate. Unlike many other forensic disciplines, digital evidence is not purely seeking if two artifacts are from the same source, instead, digital evidence seeks to show or imply actions by an individual. As such, random errors are not necessarily appropriate as an evaluation tool in a digital evidence process. This panel brings together seasoned digital evidence professionals from government, academic, and private organizations in a discussion on how error rates should be addressed when evaluating the confidence of a digital evidence exhibit.

Human Factors in Pattern Evidence: How the OSAC Physics/Pattern SAC Subcommittees are Considering Measures to Mitigate the Effects of Bias

Examinations in pattern evidence disciplines, such as Firearms and Toolmarks, Footwear and Tire, and Friction Ridge Analysis, can be influenced by various cognitive, contextual, and human factors. The interpretation of pattern evidence requires human judgment, which involves subjective decision-making. This panel will discuss practical considerations for implementing measures to mitigate the effects of various human factors during pattern evidence examinations.

Section 4.
Panel Descriptions

Speech Chain Analysis for Speaker Recognition Systems and Likelihood Ratios to Express Score Probabilities Under Competing Hypotheses *Continued*

and processing designs can be studied and analyzed to optimize the signal quality at each point and both understand the sensitivity of the comparisons in terms of error sources and work to reduce their impact and thus the total speaker recognition system error rates. This would be analogous to the image chain model for electro optical imaging systems. The application of speech chain analysis to quantify speaker recognition system error management will be discussed in this presentation. The presentation will also discuss modeling being proposed for Friction Ridge error predictions; followed by panelists presenting the pros and cons of Likelihood Ratios to express score probabilities under competing hypotheses.

Bloodstain Pattern Analysis Subcommittee

Bloodstain pattern analysis (BPA) is based on scientific analytical processes and critical reasoning. As with any field, the success of the practitioner is reliant on the quality of the data used for interpretation and the rigorous adherence to quality control mechanisms. This panel, comprised of experts in bloodstain pattern analysis practice, human factors/bias analysis, statistical evaluation and legal oversight, will address the challenges in determining error rates, sources of error, and current and suggested methods to mitigate errors in BPA. The panel will provide a brief status on the field of bloodstain pattern analysis and provide a multi-disciplinary discussion including potential sources of error in bloodstain pattern analysis.

Error Management and Forensic Document Examination

A panel of members from the OSAC Document Examination subcommittee will provide a summary of research regarding the determinations of error rates for handwriting examination, a discussion of the usefulness of establishing error rates for non-handwriting examinations, as well as reporting/testimony strategies used to mitigate misunderstandings regarding the findings made by document examiners.

Section 4.
Panel Descriptions

The Use of Statistical Methods for Error Management in the Forensic Sciences

The forensic sciences, like all other areas of science, must rely on imperfect analytical methods and metrics to assess, quantify, and interpret evidence to answer questions about important events about which the truth needs to be known. The methods used are potentially subject to both random and systematic sources of error that must be minimized through the use of best practices during analysis and whose typical residual magnitudes must be assessed and accurately presented to judges and juries in court. This panel session will present an overview of how statistical methods can be used for error management in the forensic sciences and invite audience discussion and feedback.

Moot Court

Moot Court Demonstration to include two separate cross-examinations.
(1) An expert will represent a laboratory that has not adopted adequate error management techniques and procedures.

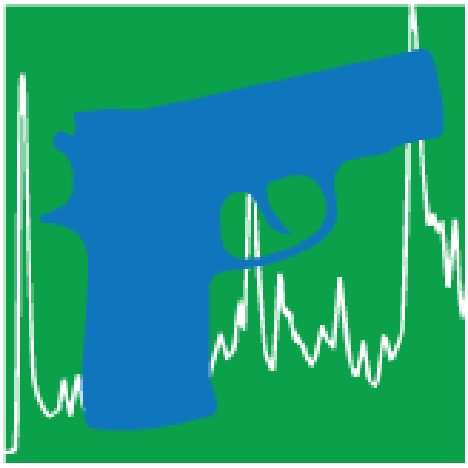
(2) An expert will represent a laboratory that has done a better job with error management techniques and procedures.

These demonstrations will illustrate ways in which adopting such procedures can strengthen the evidence a forensic scientist can provide in the courtroom and protect the expert from certain charges of bias, techniques, etc.

Section 4.
Track Descriptions

CRIME SCENE

Detecting, recording, collecting, packaging, transporting and preserving forensic science evidence to reconstruct criminal events is becoming ever more technologically advanced. Tools for video recording crime scenes, recording 3-D impression evidence, bloodspatter interpretation and collecting traces of biological and other evidence below the limits of detection by the human eye demand more training and expertise by crime scene scientists. Learn what challenges and potential errors occur with crime scene investigation and how to reduce them.



CRIMINALISTICS

Forensic serology, DNA, bloodstain patterns, controlled substances, toxicology, hair and fiber, paint, glass, coatings, plastics, metals, soil and dust, arson debris and explosives residue, fingerprints and other friction ridges, footwear, tire treads, firearms and tool marks, gunshot residue, and question documents fall within the scope of criminalistics – that is, the forensic science disciplines traditionally practiced in crime laboratories. How do each of these disciplines detect, measure and reduce the likelihood of errors? What do the protocols include to signal the incidence of an error? What happens when an error is detected? What lessons can be learned? Learn causes and means to reduce error.

DEATH INVESTIGATION

Death investigators face the challenge of learning from the decedent only by detective work and scientific investigation. Identifying the cause, mechanism and manner of death involves certain well tested practices but is not free of controversy over some forensic pathology protocols, like shaken baby cases or uncertainty measurement of time of death. Learn causes and means to reduce error in death investigation.

Section 4.
Track Descriptions

DIGITAL EVIDENCE

Error management for digital and multimedia evidence – from mobile phones to digital images to social media analysis – presents some unique concerns. The digital world moves extremely rapidly and a digital forensic practitioner is likely to encounter novel situations. How do you address error management when you are extracting information from a device you have never seen before, or when the system is still running and information is changing while being extracted? How do you attribute data or actions to a particular user of a computer system when the system shows signs of compromise? How do you answer when asked about an error rate?

HUMAN FACTORS

Forensic scientists have only recently come to recognize that their close relationships with prosecutors, defense attorneys and law enforcement officers that was traditionally regarded as vital to investigative teamwork might also provide unexpected bias from scientifically irrelevant but subconsciously influential information. What is the right balance of information necessary for forensic testing and sequential masking of unnecessary information? All human activities involve subconscious behaviors – learn how to identify and reduce cognitive, contextual and confirmation bias in actual casework.

LABORATORY MANAGEMENT

Forensic science laboratory managers must be politically astute, effective negotiators, good accountants, good listeners, good detectives, good scientists, good media relations spokespersons, have squeaky clean integrity and be great leaders and role models for their staff, their superiors and their customers. The next unexpected laboratory incident looms just around the corner for the director of every crime laboratory, bar none. Managing to ensure quality, productivity and service to the criminal justice system – requires systems approaches to anticipate and proactively minimize error. What are those systems approaches?

Section 4.
Track Descriptions

LEGAL FACTORS

Good lawyering and good scientific analysis of physical evidence share some things in common but objectivity is not one of them. Good scientist present conclusions in court based on objective facts they determine from scientifically valid protocols. Lawyers sum up those facts and their job is to influence the jury through advocacy. The intersection of science and the law presents challenges. Questions arise about admissibility, disclosure and defining limitations in reporting and expert testimony. Lawyers and scientists don't always agree how to proceed. Ramification of forensic science evidence in criminal proceedings – ethical and unethical expert testimony and lawyer conduct can impact appellate review. What can we learn from recent appellate

QUALITY ASSURANCE

Forensic scientists can make errors. What can the QA manager do in the laboratory to reduce the incidences of error, to measure the severity of the error and take appropriate action? How does the scientist get evaluated and corrective action or retraining get appropriately applied to reduce the chance of future incidences? How do clients get informed in a timely and effective manner? Are proficiency tests adequate? Random case reanalysis? Blind proficiency testing? Lab accreditation? Forensic science practitioner certification? In-service training requirements? Application of standards and guidelines to ensure consistent quality analysis, report writing and expert forensic science testimony are the tools of the lab QA manager. What challenges

Section 5.

Keynote and Plenary Speakers

Brandon Mayfield
Tuesday, July 21, Keynote Address-General Session, Salon A/B
A former Patriot Missile Platoon Leader, US Army. Member of the Oregon State Bar licensed to practice in federal courts and the 9th Circuit Court of Appeals. Currently practicing in the area of civil litigation, civil rights, appeals, personal injury, and contracts. He has written and lectured on a number of subjects including, profiling of Muslims, implementation of the war on terror, and fingerprint forensics. Co-author "Improbable Cause".

Steven Wax
Tuesday, July 21, Keynote Address-General Session, Salon A/B
Steven Wax recently retired after 31 years as the Federal Defender for the District of Oregon to help launch Oregon's new Innocence Project as its Legal Director. A cum laude graduate of Colgate University and Harvard Law School, he was a key part of the Brooklyn, N.Y. District Attorney's prosecution of David Berkowitz, a.k.a., "The Son of Sam." Wax and his Federal Defender team successfully represented six men formerly held as "enemy combatants" in Guantanamo. He has taught at the Northwestern School of Law at Lewis and Clark College, serves as an ethics prosecutor for the Oregon State Bar, and lectures throughout the He is a fellow in the American College of Trial Lawyers. Kafka Comes To America, Wax's book about his work representing Portland attorney Brandon Mayfield and the men in Guantanamo, has won four national awards.

Gillian Tully
Tuesday, July 21, Plenary Address-General Session, Salon A/B
Gillian spent over 20 years at the Forensic Science Service (FSS), specilising in DNA innovation, including the early PCR multiplex systems, miotochondrial DNA analysis, Low Template DNA analysis, automation of DNA methods and rapid DNA systems. She reported many mitochondrial DNA cases in court, as well as giving evidence in high profile cases where the validity of scientific methods was at issue. Her portfolio of research leadership broadened to encompass the entire R&D team in the FSS, including digital forensics, informatics, physical and biological sciences. Since November 2014, she has been the Forensic Science Regulator, responsible for setting quality standards in UK forensic science.

Scott Shappell
Wednesday, July 22, Plenary Address-General Session, Salon A/B
Dr. Shappell is currently a Professor and Chair of the Department of Human Factors and Systems at Embry-Riddle Aeronautical University. Before joining the faculty at ERAU in the fall of 2012, Dr. Shappell was professor of Industrial Engineering at Clemson University from 2005-2012. Before that, he was the Human Factors Research Branch Manager at the Civil Aerospace Medical Institute. In addition, he has served nearly 20 years (11 years on active duty) in the U.S. Navy as an Aerospace Experimental Psychologist. During his time in the US Navy, Dr. Shappell served as the Human Factors Branch Chief at the U.S. Naval Safety Center and as a human factors accident investigation consultant for the Joint Service Safety Chiefs. He has published/presented well over 200 papers, books, and presentations.

Section 5.

Keynote and Plenary Speakers

Itiel Dror
Wednesday, July 22, Plenary Address-General Session, Salon A/B
Dr. Itiel Dror is a cognitive neuroscientist who received his PhD from Harvard in the area of cognitive factors in human expert performance. His insights and understanding of the human brain and cognitive system underpin his applied work with the US Air Force, medical experts, as well as forensic science and other expert domains. In the forensic domain he has led to the understanding that the perceptions and cognitions of the human examiner plays a key role in forensic work. Dr. Dror has published over 100 peer-reviewed articles specifically looking at cognitive factors that medicate human expert performance, and has developed best practices in forensic work. He has provided training on 'Cognitive Factors in Forensic Decision Making' to the FBI, LAPD, NYPD, Kansas, and many other forensic laboratories. Dr. Dror has received the ABP Annual Award for his accomplishments and impact in forensic science.

Alastair Ross
Thursday, July 23, Plenary Address-General Session, Salon A/B
Alastair is currently the Director of the ANZPAA National Institute of Forensic Science (NIFS). He also held this position as the inaugural Director from 1992 to 2003. From 2003-2008 Alastair was Director of the Victoria Police Forensic Services Department, a full service forensic facility with over 300 staff.

Alastair holds a Graduate Diploma in Business Administration and a Master of Applied Science (Research) from the University of South Australia.

Alastair received the Adelaide Medal from the International Association of Forensic Sciences for international contributions to forensic science in 2002 and is a Member of the Order of Australia (AM).

Bryan Found
Thursday, July 23, Plenary Address-General Session, Salon A/B
Bryan is the Chief Forensic Scientist with the Victoria Police Forensic Services Department. He is also Adjunct Professor in the Program in Expertise, Evidence and Law, Faculty of Law, at the University of New South Wales. He holds a Bachelor of Science, a Graduate Diploma in Education, a Graduate Diploma in Neurosciences and a Doctorate in Philosophy. Over the past 28 years Bryan has provided invited workshops in forensic, interpretative evidence, and cognitive factors at conferences and in training programs in 17 countries throughout Australasia, Asia, Europe, Africa, the Middle East and the Americas. Bryan's research interests include the characterisation of the probative value of expert opinions on pattern evidence, contextual information and cognitive bias, and the objective assessment of forensic practitioner skill characteristics.

Ralph Kleuskens
Thursday, July 23, Plenary Address-General Session, Salon A/B
Since 2007 Ralph Kleuskens is the head of the Quality Assurance & Process Management department of the Netherlands Forensic Institute (NFI). He is responsible for the quality management system of the NFI. A challenging decision was the publication of the yearly overviews on quality issue notifications and error rates on the NFI website. Ralph is the vice-chairman of the Quality and Competence standing Committee (QCC) of ENFSI, the European Network of Forensic Science Institutes. The QCC actively supports and advises the board of ENFSI and the Expert Working Groups (EWG) on the subject of quality management and education and training. Ralph has a master in Mechanical Engineering and worked in the automotive industry as a project leader and program manager for twelve years.

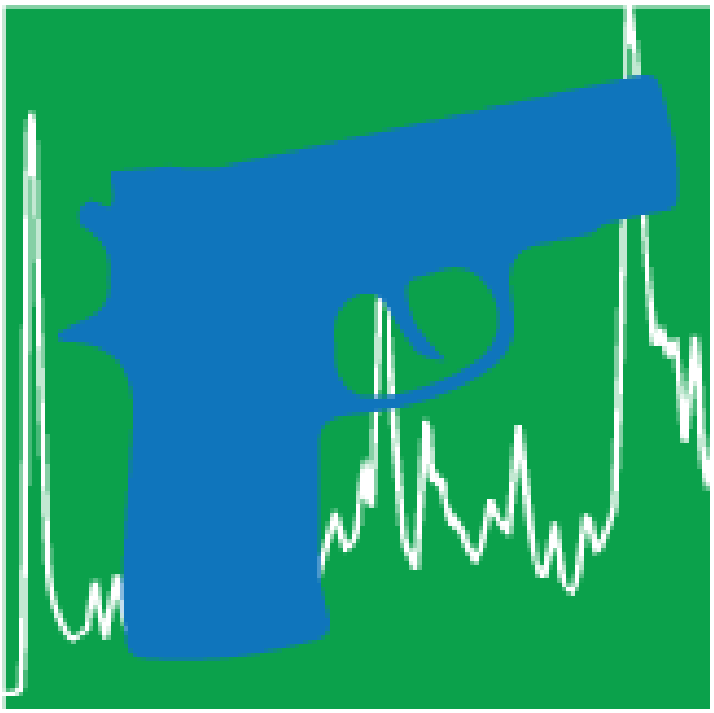
Section 5.

Keynote and Plenary Speakers

William Thompson
Friday, July 24, Plenary Address-General Session, Salon A/B
William C. Thompson is a professor in the Department of Criminology, Law & Society at the University of California, Irvine (UCI); he has joint appointments in Psychology and in UCI's School of Law, where he has taught Evidence. He received a Ph.D. in Psychology from Stanford University and a J.D. from the University of California, Berkeley. His research has been funded by the National Science Foundation and the National Institute of Justice. He has published extensively on the use and misuse of scientific and statistical evidence in the courtroom and on jurors' reactions to such evidence, focusing particularly on forensic DNA analysis. Although primarily an academic, Thompson occasionally practices law. He has litigated Frye and Daubert issues in trial and appellate courts and has represented clients in jury trials involving novel scientific and statistical issues. Thompson was a member of the Task Force that drafted the ABA's Standards on DNA Evidence, he served on the California Crime Laboratory Review Task Force, and he has been a member of SWG-Speaker—the scientific working group on speaker identification.

Lynn Garcia
Friday, July 24, Plenary Address-General Session, Salon A/B
Lynn Garcia serves as general counsel to the Texas Forensic Science Commission, a position she has held since December 2010. As legal advisor to the Commission, Ms. Garcia's primary responsibility is to assist nine Commissioners appointed by the Governor with investigating allegations of professional negligence and misconduct in accredited crime laboratories.

Ms. Garcia manages complaints received from a variety of sources, including inmates and their families, advocacy organizations, defense counsel, and current or former laboratory employees. She also manages the Commission's review of laboratory self-disclosures for nonconformances that may rise to the level of negligence or misconduct. Laboratories are required to self-report these nonconformances under Texas law.



Section 6.

Detailed Symposium Agenda

-Time-	-Event- -Location-
0730 - 1700	REGISTRATION North Tower - Crystal Ballroom Lobby
1330 - 1700	EXHIBITS North & South Tower - Public Space
1330 - 1500	POSTER SESSION Washington Ballroom

GENERAL SESSIONS

-Time-	-Event- -Location-		-Presenter- -MODERATOR: MARK STOLOROW-	-Title-
0830 - 0900	WELCOME SYMPOSIUM OPENING	Crystall Ballroom Salon A/B	Willie May, Director, NIST	Welcome
0900 - 1000	KEYNOTE SPEAKERS	Crystall Ballroom Salon A/B	Brandon Mayfield, Law Offices of Brandon Mayfield Steven Wax, Legal Director, Innocence Project Oregon	Keynote Lecture
1000 - 1045	PLENARY SPEAKER	Crystall Ballroom Salon A/B	Gillian Tully, Forensic Science Regulator, UK Home Office, UK	Learning From Errors
1045 - 1115	MORNING BREAK			

	BREAKOUT SESSIONS								
1115 - 1215	CRIME SCENE Salon A Moderator: R. Bucht	CRIMINALISTICS I Salon B Moderator: C. Word	CRIMINALISTICS II	DEATH INVESTIGATION	DIGITAL EVIDENCE	HUMAN FACTORS	LAB MANAGEMENT Jackson/Harrison Moderator: R. Thompson	LEGAL FACTORS	QUALITY ASSURANCE Salon C/D/E Moderator: J. Bitter
1115	Crime Scene Errors and Issues Henry Lee **(60 min)**	The Madrid Fingerprint Error: Root Cause and Procedures Implemented - Melissa Gische					Guidelines for the Use of Root Cause Analysis to Reduce Error and Improve Quality in Forensic Science Laboratories - John Hollway		Considerations on the Efficacy of Accreditation and Laboratory Performance - Eric Steel
1135		Quantifying False Individualization in Latent Identification - Elham Tabassi					Corrective Measures Taken in Response to DNA Extraction Failures Using a Newly Validated Method - Joel McGrory		Proficiency Testing Programme in Forensic GSR and Firearm Investigation - Ludwig Niewohner
1155		Mending Justice and Learning from Error: NIJ's Sentinel Events Initiative - Thomas Feucht					A Structured Approach to Root Cause Analysis - Max Houck		Inaugurating Data Integrity in Forensic Science - Ashraf Mozayani
1215 - 1330	LUNCH (On Your Own)								

	BREAKOUT SESSIONS
1330 - 1500	POSTER SESSION - Washington Ballroom - Authors are available for presentations

	CRIME SCENE Salon A Moderator: M. Najarro	CRIMINALISTICS I Salon B Moderator: T. Roberts	CRIMINALISTICS II	DEATH INVESTIGATION	DIGITAL EVIDENCE	HUMAN FACTORS	LAB MANAGEMENT Jackson/Harrison Moderator: S. Ballou	LEGAL FACTORS	QUALITY ASSURANCE Salon C/D/E Moderator: C. Steffen
1330	The Trauma Patient in the Hospital Emergency Department: An Unrecognized Crime Scene -Jayne Batts	**-PANEL- CRIMINALISTICS**					Errors in a DNA Testing Laboratory - Charlotte Word		Error, Error Rates And Uncertainty: What Are They, How Are They Determined and Do They Facilitate The Discovery Of Truth In The Courtroom? - Joseph Bono, Ted Vosk **(60 min)**
1350	Avoiding Non-selective and Destructive Swabbing - Rebecca Bucht	Bridging the Gap Between Black Box/White Box Research and Implementation in Latent Print Casework - Maria (Toni) Antonia Roberts (moderator); Michelle Thompson, Heidi Eldridge, Itiel Dror, Matt Schwarz, Austin Hickilin					Detection and Mitigation of Medical Errors - Ted Schenberg		
1410	3D Laser Scanner Error Sources - Meghan Shilling						The Challenge of Auditing Technical Records Generated During Complex DNA Casework Processes - Robert Askew		
1430							Laboratory Management Techniques and Practices for Creating a Culture Where Quality is Top Priority - Natalie Morgan		Measuring Criminalistic Uncertainty - Jay Kadane
1500 - 1530	**AFTERNOON BREAK Concourse**								
1530 - 1700	**BREAKOUT SESSIONS**								
	CRIME SCENE Salon A Moderator: E. Toomer	**CRIMINALISTICS I Salon B Moderator: R. Thompson**	**CRIMINALISTICS II**	**DEATH INVESTIGATION**	**DIGITAL EVIDENCE**	**HUMAN FACTORS**	**LAB MANAGEMENT Jackson/Harrison Moderator: J.P. Jones**	**LEGAL FACTORS**	**QUALITY ASSURANCE Salon C/D/E Moderator: W. Guthrie**
1530	**-PANEL- CRIME SCENE**	Policy Decisions in Latent Print Examination Affect Specificity - Carey Hall					Calculating the True Costs of Errors in Forensic Casework - Elissa Mayo **(30 min)**		**-PANEL- QUALITY ASSURANCE**
1550	Organization of Scientific Area Committees (OSAC) Bloodstain Pattern Subcommittee Panel to Address Error Management in the Field of Bloodstain Pattern Analysis - Elizabeth Toomer (moderator); Kim Clements, LeeAnn Singley, Paul Kish, Chris Plourd, Itiel Dror, James Filliben	Changes in Latent Print Examinations as a Result of Technical Review - Marcus Montooth					**4:00pm --** Efficiency Efforts: An Examiner-Friendly Approach to Improving Laboratory Operations - Henry Maynard		The Use of Statistical Methods for Error Management in the Forensic Sciences - Will Guthrie (moderator); John Buckleton, Antonio Possolo, Steven Lund, Hari Iyer
1610		A Forensic Latent Fingerprint Image Quality Metric for Preprocessing Quality Assurance - Haiying Guan					**4:20pm --** Students in the Forensic Laboratory: Fostering Education While Maintaining Quality - Christiane Baigent		
1630		Communicating Measurement Results in the Courtroom: A Matter of Error, Uncertainty and Inference - Ted Vosk					**4:40pm --** Implementing the Duty to Correct Error in Forensics - Barry Scheck		
1700	**CONCLUSION**								

International Symposium on Forensic Science Error Management Preliminary Program

(Author and Abstract Number are listed - check full program for completed information)

Wednesday, July 22, 2015

CONCURRENT EVENTS

-Time-	-Event- -Location-
0730 - 1700	REGISTRATION North Tower - Crystal Ballroom Lobby
1000 - 1200 1300 - 1600	EXHIBITS North & South Tower - Public Space
0830 - 1700	POSTERS ON DISPLAY Washington Ballroom

GENERAL SESSIONS

-Time-	-Event- -Location-		-Presenter- -MODERATOR: MARK STOLOROW-	-Title-
0830 - 0900	SYMPOSIUM OPENING	Crystall Ballroom Salon A/B	Mark Stolorow, NIST	House Keeping
0900 - 0945	PLENARY SPEAKER	Crystall Ballroom Salon A/B	Scott Shappell, Chair, Department of Human Factors and Systems, Embry-Riddle Aeronautical University, USA	The Impact of Shiftwork and Fatigue on Performance
0945 - 1030	PLENARY SPEAKER	Crystall Ballroom Salon A/B	Itiel Dror, Sr. Cognitive Neuroscience Researcher, University College London, UK	Cognitive Sources of Error and Ways to Minimize Them
1030 - 1100	MORNING BREAK			

BREAKOUT SESSIONS

1100 - 1200	CRIME SCENE Salon A Moderator: M. Najarro	CRIMINALISTICS I Salon B Moderator: M. Coble	CRIMINALISTICS II Salon C/D/E Moderator: T. Roberts	DEATH INVESTIGATION Madison Moderator: M. Shilling	DIGITAL EVIDENCE Jackson/Harrison	HUMAN FACTORS Monroe Moderator: N. Paulter	LAB MANAGEMENT	LEGAL FACTORS	QUALITY ASSURANCE
1100	Forensic Science-the Quality Assurer? - Peter De Forest **(30 min)**	Arising Issues Implementing Advances in DNA Technology May Tarnish the Gold Standard - Amy Jeanguenat	New Psychoactive Substances (NPS): How to Keep up with the Never Ending Need for New Reference Materials? - Michael Collins	Forensic Pathology as a Forensic Science: History, Current Challenges, Improving Quality, and Understanding Cognitive Bias - Andrew Baker		Cognitive Human Factors and the Use of Signature Features in Questioned/Known Signature Comparisons - Mara Merlino			
1120	**11:30am --** Measurement Errors with Point Clouds - Gregory Walsh	NIST Concordance Evaluations to Assist in the Improvement of Commercial STR Multiplexes - Carolyn Steffen	Error Analysis of a Forensic Controlled Substance Case - Heather Harris			Cognitive Human Factors and Call Accuracy in Limited-Information Signature Identification Tasks - Tierra Freeman			
1140		Application of a DNA Quantitation Standard for Human Identity Testing - Erica Romsos				Study on Methods of Quality Control and Evaluation of Fingerprint Identification - Shiquan Liu			
1200 - 1330	LUNCH (On Your Own)								

1330 - 1500	BREAKOUT SESSIONS								
	CRIME SCENE **Salon A** **Moderator: B. Guttman**	**CRIMINALISTICS I** **Salon B** **Moderator: J. Butler**	**CRIMINALISTICS II** **Salon C/D/E** **Moderator: M. Taylor**	**DEATH INVESTIGATION** **Madison** **Moderator: M. Coble**	**DIGITAL EVIDENCE** **Jackson/Harrison** **Moderator: M. Herman**	**HUMAN FACTORS** **Monroe** **Moderator: M. Gische**	**LAB MANAGEMENT**	**LEGAL FACTORS**	**QUALITY ASSURANCE**
1330	Pre-flashover Fire Pattern Repeatability on Gypsum Wallboard - Daniel Madrzykowski	Effect of Drop-in on False Positive and Rank-Order Likelihood Ratios (LR) Calculated for a Mixture of Touch DNA - Clinton Hughes	Positive identification starting with a skull visualized by a 3D scanner using image superimposition and the 3D Max software. Cases developed from 2004 to 2014 in the Forensic Science and Legal Medicine Institute of the Public Prosecutor's Office - Danny Jesus Humpire Molina	Mitigating DNA Identification Errors in Mass Fatality Response Operations through Rapid DNA Technology - Christopher Miles	Error Management in Forensic Digital Imaging Should be a Resolution for Throughout the Entire Law Enforcement Community - David Witzke **(30 min)**	**-PANEL-** **HUMAN FACTORS**			
1350	Error Management in Fire and Explosion Investigations - Craig Beyler	Error Rates in Probabilistic Genotyping Software for DNA Mixtures in Human Identification - How to Compare? - Heather Miller Coyle	3D Fingerprint Targets - Nicholas Paulter	Descriptive Frequency Analysis of 110 Bodies found in Confined Water Spaces and Determination of the Manner of Death, Including Investigative Outcomes - Joanne Richardson	**2:00pm** -- Error Treatment in Forensic Authoriship Attribution - Patrick Juola	Human Factors in Pattern Evidence: How the OSAC Physics/Pattern SAC Subcommittees are Considering Measures to Mitigate the Effects of Bias - Melissa Gische (moderator); Itiel Dror, Doug Murphy, Melissa Valadez, Henry Swofford			
1410	How Fire Investigation Organizations Get in Trouble with Preventable Errors - Chris Connealy	Objective DNA Mixture Information in the Courtroom: Relevance, Reliability and Acceptance - Mark Perlin	Error Propagation in Shape Analyses With or Without Landmarks - Scott Ferson	Searching for a Standard: The Impact that Method Selection has on Evidence Recovery in Forensic Archaeological Investigations - Laura Evis	**2:20pm** -- Speaker Detection in a Forensic Environment: Recognizing the Limitations, Improving the Science - Alvin Martin				
1430		Validating Software for Probabilistic Genotyping - John Buckleton		Forensic Science Will Greatly Improve Digital Evidence Error Management by Utilizing DICOM and SNOMED CT Standards in Dental and Visible Light Images - Andrew Casertano	**2:40pm** -- An Overview of Speaker Variability as a Source of Error in Forensic Automatic Speaker Recognition - Finnian Kelly				
1500 - 1530	**AFTERNOON BREAK**								
1530 - 1700	**BREAKOUT SESSIONS**								
	CRIME SCENE **Salon A** **Moderator: L. Garcia**	**CRIMINALISTICS I** **Salon B** **Moderator: J. Butler**	**CRIMINALISTICS II** **Salon C/D/E** **Moderator: R. Bucht**	**DEATH INVESTIGATION** **Madison** **Moderator: E. Sisco**	**DIGITAL EVIDENCE** **Jackson/Harrison** **Moderator: P. Higgins**	**HUMAN FACTORS** **Monroe**	**LAB MANAGEMENT**	**LEGAL FACTORS**	**QUALITY ASSURANCE**
1530	**-PANEL-** **CRIME SCENE**	Interpretation Errors Detected in a NIST Interlaboratory Study on DNA Mixture Interpretation in the U.S. (MIX13) - Michael Coble	Strengthening Forensic Opinions through Objective Assessment of Evidentiary Value: A Prospective for Future Directions in Criminalistics - Michael Sigman	Medical Examiner Collection of Comprehensive, Objective Medical Evidence for Conducted Electrical Weapons and Their Temporal Relationship to Sudden Arrest - Michael Brave	**-PANEL-** **DIGITAL EVIDENCE**				
1550	Improving Fire Investigations through Science, Best Practices, and Transparency - Lynn Garcia (moderator); Chris Connealy, John DeHaan, Dan Heenan, David Moran, Nick Vilbas	A Large-scale Study of DNA Mixture Interpretation: Inter- and Intra-laboratory Variability - Roman Aranda IV	Mitigation of Fire Debris Compound Naming Error through Automation - Myron Sasser	Investigating Arrest-Related Deaths - Darrell Ross	Speech Chain Analysis for Speaker Recognition Systems and Likelihood Ratios to Express Score Probabilities Under Competing Hypotheses - Peter Higgins (moderator); James Wayman, Hirotaka Nakasone				
1610		Defining the Limits of Forensic DNA Profile Interpretation: An Assessment of the Information Content Inherent in Complex Mixtures - Keith Inman	Evaluation of the Degradation of Lotion Components Due to Age and Exposure - Jeffrey Dake	Confirmational Bias and Investigation of Arrest-related Deaths - Michael Brave for Steven Karch					
1630		Errors in Interpretation of DNA Profile Data - Charlotte Word	Using Statistical Analysis to Assist with Writer Identification - Michael Wakshull	Medical Examiner Mistakes in Tennessee: A Proposed Model for Formal, Comprehensive Death Investigation Peer Review - Amy Hawes					
1700	**CONCLUSION**								

International Symposium on Forensic Science Error Management Preliminary Program

(Author and Abstract Number are listed - check full program for completed information)

Thursday, July 23, 2015

CONCURRENT EVENTS

-Time-	-Event- -Location-
0730 - 1700	REGISTRATION North Tower - Crystal Ballroom Lobby
0830 - 1700	POSTERS ON DISPLAY Washington Ballroom

GENERAL SESSIONS

-Time-	-Event- -Location-		-Presenter- -MODERATOR: MARK STOLOROW-	-Title-
0830 - 0900	SYMPOSIUM OPENING	Crystall Ballroom Salon A/B	Mark Stolorow, NIST	House Keeping
0900 - 0935	PLENARY SPEAKER	Crystall Ballroom Salon A/B	Alastair Ross, Director, National Institute of Forensic Science, Australia-New Zealand Policing Advisory Agency (ANZPAA), Australia	The Source of Errors: Systems, Policy and Practice
0935 - 1010	PLENARY SPEAKER	Crystall Ballroom Salon A/B	Bryan Found, Chief Forensic Scientist, Victoria Police Forensic Services Department, Australia	To Err Was Forbidden: The Changing Culture of Error Exploration in Forensic Pattern Evidence
1010 - 1045	PLENARY SPEAKER	Crystall Ballroom Salon A/B	Ralph Kleuskens, Manager, Quality and Process Management, Netherlands Forensic Institute (NFI), The Netherlands	Forensic Science Quality Management
1045 - 1100	MORNING BREAK			

BREAKOUT SESSIONS

1100 - 1200	CRIME SCENE	CRIMINALISTICS I Salon A Moderator: A. Nelson	CRIMINALISTICS II Salon B	DEATH INVESTIGATION	DIGITAL EVIDENCE Salon C/D/E	HUMAN FACTORS Monroe Moderator: J. Bitter	LAB MANAGEMENT	LEGAL FACTORS Madison Moderator: E. Sisco	QUALITY ASSURANCE Jackson/Harrison
1100		Being There---A First Hand Journey Through Mayfield - Kenneth Moses				Combating Confirmation Bias: Can Forensic Science Benefit from Importing Eyewitness Identification Procedures? - Jeff Kukucka		Forensic Scientific Error and Omission Within the Legal System - Forensic Science in the Court room: Can we communicate better? - Christopher Plourd	
1120		A Novel Approach for Quantifying the Weight of Fingerprint Evidence - Henry Swofford				The "Six Thinking Hats" Method of Removing Bias from Case Review - Robert Blackledge		Statistical Issues and Reliability of Eyewitness Identification as a Forensic Tool - Karen Kafadar	
1140		Crowd Powered Latent Fingerprint Identification: Fusing AFIS with Examiner Markups - Sunpreet Arora				Mitigation of Forensic Error Rates in Evaluating Pattern-Based Handwriting Evidence Using a Lineup Process - Larry Miller		Language Barriers: Creating Standard Terminology to Mitigate Forensic Errors in the Courtroom - Jessica Gabel	
1200 - 1330	LUNCH (On Your Own)								

1330 - 1500	BREAKOUT SESSIONS								
	CRIME SCENE	CRIMINALISTICS I Salon A Moderator: L. Garcia	CRIMINALISTICS II Salon B Moderator: R. Bucht	DEATH INVESTIGATION	DIGITAL EVIDENCE Salon C/D/E Moderator: M. Herman	HUMAN FACTORS Monroe Moderator: C. Steffen	LAB MANAGEMENT	LEGAL FACTORS Madison Moderator: M. Coble	QUALITY ASSURANCE Jackson/Harrison Moderator: E. Romsos
1330		**-PANEL- CRIMINALISTICS**	Congruent Matching--Theory and Application in Forensic Evidence Identification and Error Rate Estimation - John Song		Improving Cyber Forensics and Cybersecurity through Block Chain Technology with Truth Based Systems - Ken Zatyko	Development of a Reasonable Minimum Documentation Standard in Latent Print Analysis and Comparison - Heidi Eldridge		The Use of Blinded Eyewitness Identification as a Forensic Procedure - Brandon Garrett	Forensic DNA: the Gold Standard or Fools Gold? - Karl Reich
1350		You Want Us to Do WHAT? Conducting a Retroactive Review of Hair Microscopy Cases as a Matter of Shared Ethical and Professional Duty - Lynn Garcia (moderator); Art Eisenberg, Mike Martinez, Skip Palenik, Jack Roady, Melissa Valadez, Nick Vilbas	Assessing Error Rates for Firearm Identification Based on the CMC Method - Daniel Ott		Measuring and Mitigating Errors in a `Digital Forensics as a Service' Environment - Harm van Beek	A Typology of Underexploitation of Latent Print (Fingerprint) Evidence - Simon Cole		Uncertainty In Forensic Science: A Factor Deliberately Down-Played By Forensic Examiners - Clifford Spiegelman	The Value of Regular Benchmarking Studies in Forensic Science to Understand Where Errors Can Occur: Lessons Learned from NIST DNA - Interlaboratory Studies - John Butler
1410			An Analysis of Correlation Scores Between Cartridge Cases - James Yen		Measuring Systematic and Random Error in Digital Forensics - Alex Nelson	Objective Classification of Fingerprint Image Complexity - Henry Swofford		You're doing a great job, but you're doing it ALL WRONG! - Robert Blackledge	Automated DNA Examiner Assessment Tool (DEAT): A Software Program to be Utilized in DNA Benchmarking, Training, Proficiency, and Competency Testing - Roman Aranda IV
1430			Measured Error Rates in Cartridge Case Comparisons - David Baldwin		A Logic Based Model for Error Management in Network Forensics Analysis - Anoop Singhal	Minimizing and Leveraging Bias in Forensic Science - Nathan Adams		Recognizing Sentinel Events in Forensic Science to Avoid Errors - Arthur Young	Quality Assurance and Quality Control in Breath Alcohol Measurement Programs Using Intoxilyzers Such as the Intoxilyzer 8000C - Sivarama Krishnan
1500 - 1530	**AFTERNOON BREAK**								
1530 - 1700	BREAKOUT SESSIONS								
	CRIME SCENE	CRIMINALISTICS I Salon A Moderator: E. Wooton	CRIMINALISTICS II Salon B Moderator: R. Thompson	DEATH INVESTIGATION	DIGITAL EVIDENCE Salon C/D/E Moderator: J. Darnell	HUMAN FACTORS Monroe Moderator: M. Taylor	LAB MANAGEMENT	LEGAL FACTORS Madison Moderator: J.P. Jones	QUALITY ASSURANCE Jackson/Harrison
1530		**-PANEL- CRIMINALISTICS**	Gunshot Distance Determinations, Crystal Ball Reading or Science? - Paul Paradis **(30 min)**		**-PANEL- DIGITAL EVIDENCE**	High Resolution Heat Imaging Technology - A New Approach in Fingerprint Search and Securing - Norman Kreuter		To Err is Human, but How Might We Measure Error Rates in Forensic DNA Testing and What Would These Error Rates Really Mean? - John Butler	
1550		Error Management and Forensic Document Examination - Elaine Wooton (moderator); Michelle Novotney	**4:00pm --** Lead Density on a Target, A Significant Indicator of Firing Distance, but is it Reliable? - Elizabeth Gardner		Understanding the Relevance of Error Rates in a Digital World - James Darnell (moderator); Mary Horvath, Jim Lyle, Clay Schilling, Sam Brothers	Understanding and Detecting/Preventing/Mitigating Errors in Stair Fall-related Personal Injury Litigation Inspections and Other Legally Mandated Inspections - Jake Pauls		The Potential of Blind Collaborative Justice: Testing the Impact of Expert Blinding and Consensus Building on the Validity of Forensic Testimony - Carolyn Wong	
1610			**4:20pm --** Quantitative Metrics for Identifying Characteristic GSR Particles - Nicholas Ritchie			Visual Comparison of Complex Sets of Quantifiable Forensic Data - David Sorensen **(35 min)**		Garbage In-Gospel Out?: Moving Forensic Fire Investigation Into The 21st Century - Vincent Brannigan	
1630			**4:40pm --** Uncertainty Associated with the Elemental Analysis and Forensic Comparison of Materials using Laser Ablation Inductively Coupled Plasma Mass Spectrometry - Jose Almirall						
1700	**CONCLUSION**								

International Symposium on Forensic Science Error Management Preliminary Program

(Author and Abstract Number are listed - check full program for completed information)

Friday, July 24, 2015

CONCURRENT EVENTS

-Time-	*-Event-* *-Location-*
0730 - 1000	REGISTRATION North Tower - Crystal Ballroom Lobby

GENERAL SESSIONS

-Time-	*-Event-* *-Location-*		-Presenter- -MODERATOR: MARK STOLOROW-	-Title-
0830 - 0900	SYMPOSIUM OPENING	Crystall Ballroom Salon A/B	Mark Stolorow, NIST	House Keeping
0900 - 0945	PLENARY SPEAKER	Crystall Ballroom Salon A/B	William Thompson, Department of Criminology, Law & Society, University of California-Irvine, USA	Error Management for Forensic DNA Testing: Lessons from Known Errors and Close Calls
0945 - 1030	PLENARY SPEAKER	Crystall Ballroom Salon A/B	Lynn Robitaille Garcia, General Counsel, Texas Forensic Science Commission, USA	The Importance of Trust and Collaboration in Tackling Forensic Problems: Lessons from the Lone Star State
1030 - 1100	MORNING BREAK			
1100 - 1200	Moot Court	Crystall Ballroom Salon A/B	William Thompson, Department of Criminology, Law & Society, University of California-Irvine, USA and Jason Tully, Public Defender Service of DC, USA	Moot Court Presentation
1200 - 1230	SYMPOSIUM CLOSING			

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Section 10. Exhibits

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Section 11.

Host City Information

The conference hotel will be the DoubleTree by Hilton Hotel, 300 Army Navy Drive, ARLINGTON, VA 22202.

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- There are 3 regional airports that service Washington, D.C.
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    - Washington Dulles Airport (IAD) [25 mi]
    - Baltimore/Washington International (BWI) [45 mi]
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- For visiting Washington D.C. Tips, see Washington.Org
- For a restaurant guide, see Conference Website.

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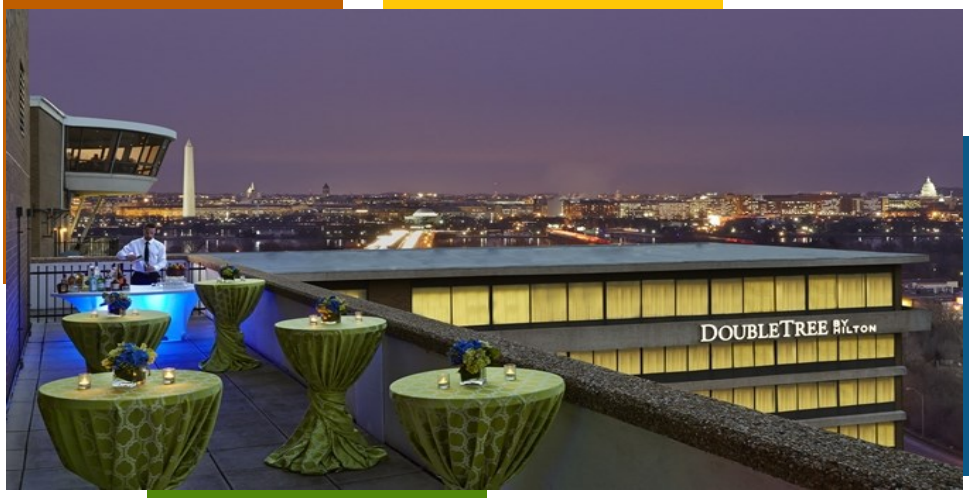
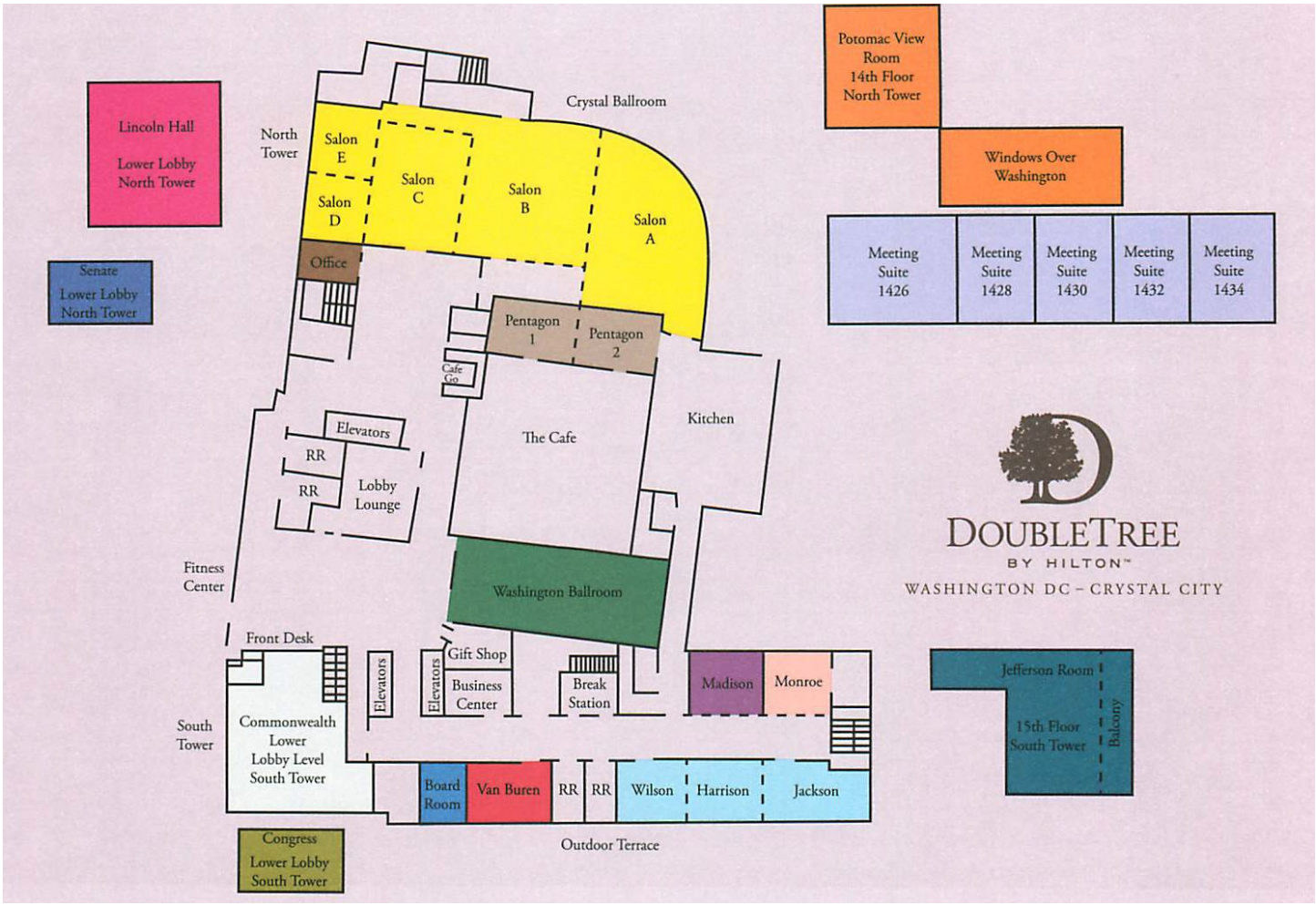


Section 11.

Symposium Meeting Facilities



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