

Rapid DNA Technology Forum



August 15–17, 2017



Forensic Technology
CENTER OF EXCELLENCE

A program of the National Institute of Justice

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NIJ is the federal government's lead agency for forensic science research and development as well as the administration of programs that facilitates training, improves laboratory efficiency and reduces backlogs. The mission of NIJ's Office of Investigative and Forensic Sciences is to improve the quality and practice of forensic science through innovative solutions that support research and development, testing and evaluation, technology, information exchange and the development of training resources for the criminal justice community.

Through the research, development, testing and evaluation process, we provide direct support to crime laboratories and law enforcement agencies to increase their capacity to process high-volume cases and provide needed training in new technologies. With highly qualified personnel and strong ties to the community, NIJ's Office of Investigative and Forensic Sciences plays a leadership role in directing efforts to address the needs of our nation's forensic science community.



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RTI International (RTI) and its academic- and community-based consortium of partnerships work to meet all tasks and objectives for the Forensic Technology Center of Excellence (FTCoE), put forward under the National Institute of Justice (NIJ) Cooperative Agreement No. 2016-MU-BX-K110.



The FTCoE is led by RTI International, a global research institute dedicated to improving the human condition by turning knowledge into practice. With a staff of more than 5,000 providing research and technical services to governments and businesses in more than 75 countries, RTI brings a global perspective. The FTCoE builds on RTI's expertise in forensic science, innovation, technology application, economics, DNA analytics, statistics, program evaluation, public health, and information science.

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August 15, 2017

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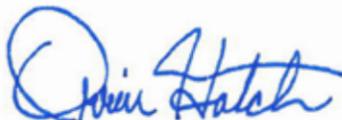
Dear Friends:

It is with great pleasure that I welcome you all to this Rapid DNA Technology Forum hosted by the Forensic Technology Center of Excellence at RTI International. As the coauthor of the Rapid DNA Act of 2017, I appreciate the important role that Rapid DNA technology can play in improving the ability of law enforcement and crime laboratories to solve crimes. Ultimately, this bill will help ensure that the guilty are held accountable and that the innocent are exonerated.

As my colleagues and I continue working to reform the federal statutes surrounding the use of Rapid DNA technology in the Combined DNA Index System (CODIS), this forum is an important opportunity for the hundreds of stakeholders of the forensic DNA and criminal justice communities to share the lessons learned from the early adopters of Rapid DNA technology and to discuss the evolution and development of the technologies, along with Rapid DNA, which will have a critical impact on the future of forensic DNA analysis. Participants in this week's forum encompass a wide range of stakeholders, including from federal law enforcement agencies, the American Society of Crime Lab Directors, and representatives from more than 20 state and local law enforcement and crime laboratories.

I thank you for your participation in this forum and stand ready to continue our work together as we seek to improve DNA analysis and make our criminal justice system more efficient and effective.

Sincerely,



Orrin G. Hatch
United States Senator

FTCoE Rapid DNA Technology Forum Hosts

Donia Slack

Donia Slack is the Associate Director for the NIJ's Forensic Technology Center of Excellence (FTCoE) where she assists the center with leading cutting-edge, technology-driven efforts in support of the sponsor's mission. Ms. Slack has over 13 years of experience in the forensic DNA community, directing and overseeing a number of internally and federally funded forensic projects pertaining to genomic analyses of human, plant, and microbial DNA. Ms. Slack has managed complex research and operational efforts serving the Department of Defense, Department of Justice, and the Intelligence Community; she has also provided programmatic oversight of contracts and subcontracts. Ms. Slack is a certified Project Management Professional (PMP), has a Bachelor of Science degree in biology from the University of Miami, and has a Master of Science degree in cellular and microbial biology from the Catholic University of America.



Sarah Norsworthy

Sarah Norsworthy is a Forensic Scientist in the Center of Forensic Sciences (CFS) Department at RTI International and supports human DNA analysis efforts across the CFS Department. Her primary focus involves providing technical assistance and guiding research tasks across multiple forensic disciplines for the National Institute of Justice (NIJ) Forensic Technology Center of Excellence (FTCoE). Prior to joining RTI, Ms. Norsworthy served as a Research Associate at ANDE (formerly NetBio, Inc.), where she developed protocols for processing low DNA content samples and human samples for identification. She also helped develop a multiplex assay for detecting clinical pathogens. Ms. Norsworthy has two Bachelor of Arts degrees in biology and mathematics from Smith College, and a Master of Science degree in biomedical forensic sciences from Boston University School of Medicine.



Agenda

At a Glance

Monday, August 14 | 3:00 p.m.–6:00 p.m.

Evening Registration

Tuesday, August 15 | 7:30 a.m.–5:30 p.m.

Registration

IntegenX Technology Update, Hands-On Demonstration, and Initiatives

ANDE Technology Update, Hands-On Demonstration, and Initiatives

ParaDNA Technology Update, Hands-On Demonstration, and Initiatives

Wednesday, August 16 | 8:30 a.m.–7:00 p.m.

Rapid DNA Overview

Rapid DNA Applications

Networking Event

Thursday, August 17 | 8:30 a.m.–3:15 p.m.

Mass Fatality Response

Moving Forward

All presentations will be held in the **Paris Ballroom**.

Floor plan is on final page of this booklet.

Full Agenda

Monday, August 14, 3:00 p.m.–6:00 p.m.

Evening Registration

Tuesday, August 15, 7:30 a.m.–5:30 p.m.

Welcome

7:30–8:30 Registration

8:30–8:40 **Welcome Remarks**
Donia Slack, *RTI International*

IntegenX—Technology Update and RapidHIT Initiatives

8:40–9:50 **IntegenX Technology Update, Hands-On Demonstration, and Initiatives**
Dr. Jay Therrien, Jason Werking, and Patty Chiang, *IntegenX, Inc.*

9:50–10:10 **Rapid DNA Initiative: Implementing a Law Enforcement and Statewide Arrestee Program**
Vince Figarelli, *Arizona Department of Public Safety*

10:10–10:25 **Break**

10:25–10:45 **Using Local DNA Databases and Rapid DNA Testing to Solve Property Crime Every Day**
Fred Harran, *Bensalem Police Department*

10:45–11:25 **An Integrative Approach to Rapidly Solving Crime: The OCDA Perspective**
Andrew Katz, Paul Carvo, and Anna Dadhania, *Orange County District Attorney's Office*

11:25–12:00 **Panel Discussion**
Moderator—Janet Girten, *Colorado Bureau of Investigation*

12:00–1:20 **Lunch on Your Own**

ANDE—Technology Update and ANDE Initiatives

1:20–2:20 **The ANDE Rapid DNA System in Law Enforcement, Military, and Disaster Victim Identification Applications**
Dr. Richard Selden, Allen Carr, and Neal Parsons, *ANDE*

2:20–2:50 **Rapid DNA Technology and the Crime Laboratory**
Stephanie Stoiloff, *Miami-Dade Police Department*
Daniel Oates, Juan Pedroso, and Andrea Amy, *Miami Beach Police Department*

2:50–3:10 **Rapid DNA Profiling of Samples Collected at the Booking Station**
Katie Fetherston, *Colorado Bureau of Investigation*

3:10–3:45 **Panel Discussion**
Moderator—Brady Mills, *Texas Department of Public Safety*

3:45–4:00 **Break**

Tuesday, August 15, 7:30 a.m.–5:30 p.m.

ParaDNA—Technology Update and ParaDNA Initiatives

4:00–5:00	Select the Right Evidence. Gain Immediate Criminal Intelligence. Accelerate Investigations. Dr. Toby Hampshire, <i>LGC</i>
5:00–5:20	ParaDNA Presumptive Screening: DNA on the Investigative Timeline Stephanie Regan, <i>Kauai Police Department</i>
5:20–5:30	ParaDNA Q&A Dr. Toby Hampshire, <i>LGC</i> Stephanie Regan, <i>Kauai Police Department</i>

Wednesday, August 16, 8:30 a.m.–7:00 p.m.

Rapid DNA Overview

8:30–8:50	Rapid DNA Typing: A Historical Perspective Erica Romsos, <i>NIST</i>
8:50–9:20	FBI Vision for Booking Station Rapid DNA CODIS Integration Dr. Tom Callaghan, <i>FBI</i>
9:20–9:40	Validation of Rapid DNA Methods Dr. Pete Vallone, <i>NIST</i>
9:40–10:00	Break
10:00–10:30	AABB Relationship Testing Accreditation Program Marsha Deitz, <i>AABB</i> Kristine Cavicchi, <i>Massachusetts OCME</i>
10:30–10:50	CODIS and NDIS Update Dr. Doug Hares, <i>FBI</i>
10:50–11:30	Panel Discussion Moderators—Kris Deters, <i>Minnesota Bureau of Criminal Apprehension Forensic Science Services</i> ; Brooke Arnone, <i>Arizona Department of Public Safety</i>
11:30–1:15	Lunch on Your Own

Wednesday, August 16, 8:30 a.m.–7:00 p.m.

Rapid DNA Applications

1:15–1:35	Applications, Field Tests, and Accreditation of Rapid DNA Within the Department of Homeland Security <i>Chris Miles, DHS, Science and Technology Directorate</i>
1:35–1:55	The Value of Rapid DNA to Aid Investigations in Anti-Human Trafficking, Border Security, and Counter Terrorism <i>Timothy Palmbach, University of New Haven, Forensic Science Department</i>
1:55–2:15	The DNA Analyst Cooperative Effort to Aid in the Identification of Hurricane Katrina Victims <i>Taylor Dickerson III, ARP Sciences, LLC</i>
2:15–2:40	Break
2:40–3:00	Explosives Research and Future Applications of Rapid DNA Technology at the ATF Laboratory <i>Steven Weitz, Bureau of Alcohol, Tobacco, Firearms and Explosives</i>
3:00–3:20	Rapid DNA Processing of Sexual Assault Kit Samples <i>Dr. Richard Selden, ANDE</i>
3:20–4:00	Panel Discussion Moderators— <i>Kris Deters, Minnesota Bureau of Criminal Apprehension Forensic Science Services; Brady Mills, Texas Department of Public Safety</i>
4:00–7:00	Networking Event

Thursday, August 17, 8:30 a.m.–3:15 p.m.

Mass Fatality Response

8:30–9:10	Rapid DNA for Mass-Fatality Response Operations and Kinship Testing <i>Dr. Amanda Sozer, SNA International</i> <i>Chris Miles, DHS, Science and Technology Directorate</i>
9:10–9:30	Leveraging DNA Information in Support of Customer Needs <i>John Boyd, DHS, Office of Biometric Identity Management</i>
9:30–9:50	Proof of Concept: Use of Rapid DNA Systems in Disaster Victim Identification <i>Timothy Kupferschmid, New York City OCME</i>
9:50–10:10	Break

Thursday, August 17, 8:30 a.m.–3:15 p.m.

10:10–10:30	Rapid DNA Technology in a Medical Examiner's Office Kristine Cavicchi, <i>Massachusetts OCME</i>
10:30–10:50	DNA Data Sharing and Privacy Challenges Sara Katsanis, <i>Duke University</i>
10:50–11:30	Panel Discussion Moderator—Timothy Kupferschmid, <i>New York City OCME</i>
11:30–1:00	Lunch on Your Own
Moving Forward	
1:00–1:30	Training Level Effects on RDNA Device Results and Analysis Richard Guerrieri and Dr. Rachel Spurbeck, <i>Battelle Memorial Institute</i>
1:30–1:50	In the Nick of Time—Training for Law Enforcement and Technical Rapid DNA Users Kathy Webb, <i>SNA International</i>
1:50–2:10	The Impact of the Rapid DNA Act to the Criminal Justice System Chris Asplen, <i>National Criminal Justice Association</i>
2:10–2:30	The ASCLD Rapid DNA Ad Hoc Task Force Initiative Ray Wickenheiser, <i>New York State Police Crime Laboratory System</i>
2:30–3:10	Panel Discussion Moderators—Ray Wickenheiser, <i>New York State Police Crime Laboratory System</i> ; Jay Henry, <i>Utah Department of Public Safety</i>
3:10–3:15	Closing Remarks Donia Slack, <i>RTI International</i>



Speaker Bios

Andrea Amy

Andrea L. Amy began her education at Broward College by completing an Associate of Science degree in criminal justice with a certificate in crime scene investigation. She then completed a Bachelor of Science degree in criminal justice with a forensic investigation concentration from Jacksonville State University. Additional coursework has been completed on a Master's level from Florida International University's College of Criminal Justice. Ms. Amy has been employed with the Miami Beach Police Department (MBPD) as a Crime Scene Investigator since 2007.

Over the past 10 years, she has worked on thousands of crime scenes relating to persons and property crimes at the county and federal levels. Passions of her discipline include latent fingerprinting techniques, ALS photography, and exploring new technologies of crime scene processing. Her most recent endeavor involves helping to implement the use of rapid DNA in the crime scene setting with the MBPD and partners.



Brooke Arnone

Brooke Arnone has worked for the Arizona Department of Public Safety (AZDPS) Crime Laboratory since 1998. Brooke became a Supervisor in 2007 and the Quality Assurance Manager for the AZDPS Crime Laboratory System in 2013. Her forensic experience includes toxicology and controlled substances. Ms. Arnone has a Bachelor's degree in chemistry from the University of Arizona, a Master's in Education (secondary sciences) from Columbus State University, and a Certificate in Laboratory Management with an emphasis in forensic science laboratory management from the University of California, Davis Extension. Ms. Arnone currently serves on the Board of Directors for the American Society of Crime Laboratory Directors.



Chris Asplen

Chris Asplen began serving as the Executive Director of the National Criminal Justice Association in January 2016. Mr. Asplen is a national and international expert on the use of DNA technologies. Previously, he served as Director of the DNA Legal Assistance Unit for the American Prosecutors Research Institute and the National District Attorneys Association; he also served as an Assistant United States Attorney and as the Executive Director of the National Commission on the Future of DNA Evidence for the U.S. Department of Justice. Mr. Asplen has

worked with governments and law enforcement agencies to implement DNA technology to maximize its ability to identify and convict the guilty while protecting the innocent. Mr. Asplen has testified before the U.S. Congress as well as the South African and Philippine parliaments. He also serves as a consultant to the U.S. Department of State and the Global Initiative to Combat Nuclear Terrorism on the prosecution of nuclear terrorism crimes.



John Boyd

John Boyd is the Assistant Director of Futures Identity in the Office of Biometric Identity Management within the National Protection and Programs Directorate of the Department of Homeland Security. Mr. Boyd's responsibilities include overseeing science and technology activities related to biometrics and identity services as well as special projects involving interagency and international partners, industry, and academia. Previously, Mr. Boyd was a line manager for ECS Federal, LLC, and led an Agile software development team that designed, maintained, and tested CODIS software. Mr. Boyd has also served as the Director, Defense Biometrics and Forensics, in the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics. Mr. Boyd holds a Bachelor's degree in physics from Virginia Military Institute and Master's degrees from the Naval Postgraduate School in operations analysis and the Naval War College in national security and strategic studies.



Tom Callaghan

Dr. Thomas F. Callaghan is the Chief Biometric Scientist for the FBI Laboratory and serves as the FBI Senior Advisor for human DNA identification. Dr. Callaghan has served as a member of Interpol's DNA Monitoring Experts Group and the G8 Law Enforcement DNA Technical Working Group. He has over 35 years of DNA analysis experience. As a member of the FBI DNA Analysis Unit, he was involved in the analysis of hundreds of homicide and rape cases. Dr. Callaghan was the first FBI CODIS Unit Chief, was an original member of the NDIS Procedures Board, and has been involved with the CODIS Program for over 25 years. Dr. Callaghan currently manages the FBI's Rapid DNA Program Office and serves as Chairman of the Criminal Justice Information Services Advisory Policy Board's Rapid DNA Task Force. Dr. Callaghan currently represents the FBI on the Forensic Committee of the International Association of Chiefs of Police and the National District Attorneys Association DNA Advisory Board.



Paul Carvo

Supervising Investigator Paul Carvo has been a police officer for 26 years. He served 13 years with the City of Tustin, California, Police Department, including 3 years as the Crimes Against Persons Detective, where he investigated robberies, homicides, sexual assaults, kidnappings, and other major crimes. In 2004, Mr. Carvo was hired as an Investigator with the Orange County District Attorney's (OCDA) Office. He spent 6 years in the Sexual Assault Unit, including 3 years assigned to the FBI Sexual Assault Felony Enforcement Team. Mr. Carvo was promoted in 2013 to the position of Supervising Investigator. He currently supervises the DNA Investigations Unit and manages all investigative aspects of the OCDA Rapid DNA Program. Mr. Carvo has trained over 400 law enforcement officers and crime scene investigators in Orange County, California, on how to properly collect and submit crime scene evidence to the OCDA Rapid DNA Program. Mr. Carvo has a BS in Criminal Justice from CSU, Long Beach.



Kristine Cavicchi

Kristine Cavicchi has worked for the Office of the Chief Medical Examiner (OCME) since May 2005. As Director of Operations, her responsibilities include managing all case intake activities, ensuring all OCME facilities statewide are well-maintained, overseeing the health and safety program, and representing the agency statewide in mass fatality planning. For the past 2 years, Ms. Cavicchi has also focused on creating the agency's Rapid DNA laboratory. She has been instrumental in setting up the lab and processing samples for validation. Ms. Cavicchi has a Master in Public Administration with a concentration in Health Administration from Suffolk University and a Master of Science in biomedical forensic science from Boston University. She is a member of the National Association of Medical Examiners and a member of the American Society for Public Administration.



Anna Dadhanian

Anna Dadhanian received a Bachelor of Arts degree majoring in chemistry and in biological sciences with a concentration in biochemistry from Cornell University in 2012 and a Master of Forensic Science degree in forensic molecular biology from George Washington University in 2014. Prior to joining the Orange County District Attorney's (OCDA) Office, Ms. Dadhanian worked for Bode Cellmark Forensics as a DNA Analyst. At the OCDA, Ms. Dadhanian works as a Forensic Scientist in the office's DNA Unit. She reviews crime scene and individual DNA profiles for upload into the local OCDA DNA Database and also performs the database upload and search functions. In 2015, Ms. Dadhanian worked to validate the RapidHIT 200 with GlobalFiler Express. Her responsibilities include reviewing and searching DNA profiles produced by the RapidHIT 200, along with testing and troubleshooting the instrument. She also trains law enforcement on the Rapid DNA Program.



Marsha Deitz

Marsha Deitz is an Assessor for the American Association for Laboratory Accreditation (A2LA) and for the American Association of Blood Banks (AABB). She has worked for AABB as the staff Lead Assessor for Relationship Testing since January 2010. Ms. Deitz is a Certified Quality Auditor with ASQ, Certified Lead Auditor for ISO/IEC 17025, Forensic Scientist, court-qualified expert witness, and a licensed Medical Technologist. She completed her undergrad in Biology at California State University, Fullerton and earned an MBA from the University of Phoenix. She has more than 15 years' experience in the DNA identity testing field, serving as Forensic Laboratory Manager and Quality Assurance Manager at Orchid Cellmark. Ms. Deitz is a member of the American Association of Blood Banks, A2LA Accreditation Council, American Academy of Forensic Sciences, AAFS Standards Board DNA Consensus Body, and the American Society for Quality.



Kris Deters

Kris Deters is a DNA Forensic Science Supervisor with the Minnesota Bureau of Criminal Apprehension (BCA) Forensic Science Services. She has been with the BCA for over 16 years. Ms. Deters also has been a Crime Scene Team Leader with the BCA. Prior to her employment at the BCA, she worked for the Washington State Patrol Crime Laboratory in Seattle testing controlled substances and performing work in serology and DNA. She received a Bachelor of Science in biology and chemistry from the University of Minnesota Duluth (UMD) and a Master of Science in chemistry (studying biochemistry) from UMD. Ms. Deters is on the American Society of Crime Laboratory Directors (ASCLD) Board. She was the Training and Education Chair 2015–2017 and is currently the Sponsorship Chair. She is an ASCLD/LAB Assessor and performs DNA audits to quality assurance standards.



Taylor Dickerson

Taylor Dickerson began his career in Forensic Science 13 years ago at New York City's Office of the Chief Medical Examiner (OCME) Department of Forensic Biology, where he performed DNA testing for criminal cases and offered expert testimony. Mr. Dickerson supervised the identification of the victims of the 9/11 WTC disaster, helped develop the OCME's Family Assistance Center procedures for mass casualty events, supervised NIJ grant-funded work for missing/unidentified person cases, and served as an Assistant CODIS Administrator. In 2012, Mr. Dickerson joined the Armed Forces DNA Identification Laboratory as a contractor through ARP Sciences, LLC and Technical Leader of the Current Day Operations Section. He oversees the DNA testing of criminal casework and current military death identifications. Mr. Dickerson served on the DNA committee of the Scientific Working Group on Disaster Victim Identification (DVI) and is a current member of the American Academy of Forensic Sciences Standards Board Consensus Body for DVI. Mr. Dickerson is an Adjunct Professor at Pace University.



Katie Fetherston

Katie Fetherston began her career in 1993 at the first private forensic laboratory to conduct DNA analysis through polymerase chain reaction in the state of Colorado. In 1996, Ms. Fetherston began with the Colorado Bureau of Investigation (CBI) in DNA databasing, then transitioned to DNA casework, and is now the Assistant Director of the CBI Forensic Services. During her career, she has seen the rise and fall of restriction fragment length polymorphism, combined probability of inclusion, and nickel-sized bloodstains necessary for DNA typing results. She has helped to change legislation to include mandatory submission of sexual assault kits, developed a DNA laboratory dedicated to streamlined DNA analysis of property crimes,



designed and built a new lab, and watched an ever-expanding DNA database provide hundreds of investigative leads all while witnessing first-hand the continual change of forensic DNA. Now with the advent of rapid DNA changing the landscape of DNA analysis once again, Ms. Fetherston is committed to staying at the forefront of this new technology.

Vince Figarelli

Vince Figarelli is the Superintendent of the Arizona Department of Public Safety (DPS) Crime Laboratory System. In his current position, he manages the four regional crime laboratories of the Arizona State Crime Laboratory System and helps establish forensic policy for the DPS and the Arizona Criminal Justice community. He has been with the laboratory for more than 25 years. Mr. Figarelli and his laboratory staff have been working on their Rapid DNA System since 2013 and officially rolled out their program in April 2014.



Janet Girten

Janet Girten has been the Director of Forensic Services at the Colorado Bureau of Investigation (CBI) since late 2009. Prior to her service in Colorado, Ms. Girten spent over 23 years with the Illinois State Police, with the last 7 years as the Deputy Laboratory Director at the Forensic Science Center at Chicago. Under Ms. Girten's leadership at the CBI, the number of scientists has increased by 112%, two new laboratories have been built in Pueblo and Arvada, a fee-for-service toxicology discipline has been established, and legislation to implement statewide sexual assault submissions has been positively impacted. Ms. Girten represents the forensic industry as a Board of Director for ANSI-ASQ National Accreditation Board, marking the first time that forensics has been represented in this organization. She has served as the Chair of the Forensic Sciences Committee for the Association of State Criminal Investigative Agencies since 2015. Ms. Girten is an avid proponent and champion of innovative DNA technology; thus, the CBI is participating in a research program to use rapid DNA in booking stations and in collaboration with a hospital for sexual assault cases.



Richard Guerrieri

Richard Guerrieri is an internationally known scientist in the field of human identification—and court-recognized expert witness with more than 250 testimonies—who has established the nation's largest capacity and highest throughput DNA database testing laboratory. Mr. Guerrieri has more than 30 years of forensic laboratory experience, including nearly 20 years with the Federal Bureau of Investigation (FBI) and the U.S. Army Criminal Investigation Laboratory.



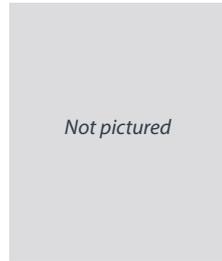
Toby Hampshire

Dr. Toby Hampshire is currently a Product Manager at LGC in the United Kingdom for a range of products manufactured in-house by LGC; these products have also been designed and developed by LGC. His initial career saw him gaining state registration as a Clinical Scientist in the UK National Health Service. He later went on to pursue his PhD by studying the molecular pathology of *Mycobacterium tuberculosis*, working collaboratively between one of the first groups worldwide to develop bacterial microarrays and a team at the UK Health Protection Agency to develop DNA vaccines. Dr. Hampshire gained commercial experience working for Applied Biosystems and Thermo Fisher Scientific; he now works in product development and commercialization at LGC. His team includes development scientists, forensic scientists, engineers, and programmers who are developing the ParaDNA System. He currently leads other externally funded programs by delivering solutions in PGx and MDx, as well as for forensics, police, and military organizations.



Doug Hares

Dr. Doug Hares is the National DNA Index System Program Manager in the Federal Bureau of Investigation's (FBI) CODIS Unit. He joined the DNA Analysis Unit II of the FBI Laboratory in 2000 as a Forensic Examiner. In 2006, Dr. Hares transferred to the CODIS Unit where he accepted his current position as NDIS Custodian. His responsibilities include safeguarding the integrity of the DNA records uploaded to and searched at the National DNA Index System and ensuring that DNA records uploaded to NDIS are in compliance with statutory requirements and NDIS operational procedures. Dr. Hares received his doctorate in molecular biology from the University of North Texas. Dr. Hares is an invited guest and participant at the Scientific Working Group on DNA Analysis Methods and the European Network of Forensic Science Institutes meetings. He also has served as a member and advisor to Interpol's DNA Monitoring Expert Group 2009–2013.



Fred Harran

Director Fred Harran, originally from New York, moved to Pennsylvania in 1982, where he received his Bachelor of Science in political science. He earned his Master of Science in criminal justice from St. Joseph's University. Director Harran has served in law enforcement with the Bensalem Township Police Department in Bucks County, Pennsylvania, for 30 years. He also serves on many law enforcement and community boards and organizations, including the Bucks County Chiefs of Police Association, IACP Forensic Science Committee, Pennsylvania Chiefs of Police Executive Board, and two state associations of Chiefs of Police. He is a published author of multiple articles, including Property Crime and DNA Databases. He



was instrumental in implementing the first county-wide local DNA database in the United States, and he lectures nationally on a variety of issues, including DNA and domestic violence. He has received over 40 awards and citations for his work in both law enforcement and in the community. In 2015, he was honored with the IACP August Vollmer Excellence in Forensic Science Award.

Jay Henry

Jay Henry is the Director for the Utah Department of Public Safety Crime Laboratory System with responsibilities that include operations, training, curriculum development, and legislative advocacy. He leads Utah's only "full-service" forensic provider, which comprises three laboratories with 50 employees and serves 140+ law enforcement agencies with a population base of approximately 2.8 million people. Mr. Henry is certified by the American Board of Criminalistics and holds memberships in the Northwest Association of Forensic Scientists (NWAFS), American Academy of Forensic Sciences, and the American Society of Crime Laboratory Directors. He has served in various capacities within these organizations, including President of the NWAFS.



Sara Katsanis

Sara Huston Katsanis is an Instructor in Science and Society Initiative at Duke University in Durham, North Carolina. Her policy research focuses on genetic testing applications in humanitarian efforts, medicine, and law enforcement. She is exploring policy challenges for applying scientific technologies to human identification in human rights contexts, such as human trafficking, migration, and adoption fraud. Ms. Katsanis received a Master of Science in medical genetics at Brunel University, United Kingdom, in 1997 and completed her research thesis at Imperial College School of Medicine at St. Mary's in London, United Kingdom. She worked as a DNA Analyst at the Harris County Medical Examiner's Office 1998–2000. In 2002, she joined Johns Hopkins University in Baltimore, Maryland as Laboratory Manager for the DNA Diagnostic Laboratory. In 2006, Ms. Katsanis began working with the renowned genetics policy institute, The Genetics and Public Policy Center, at Johns Hopkins University in Washington, DC. She joined Duke in 2009.



Andrew Katz

Deputy District Attorney (DDA) Andrew Katz is a 16-year veteran prosecutor with the Orange County District Attorney (OCDA). His experience includes assignments in misdemeanor operations, felony charging, general felony prosecutions, the Training Unit, the Special Prosecutions Unit, and the DNA Unit since September 2014. Since joining the DNA Unit, DDA Katz has filed cases, assisted with DNA legislation and appellate matters, drafted DNA collection forms, trained law enforcement and fellow DDAs in DNA case investigation and prosecution, written a comprehensive DNA manual for office-wide distribution, and written protocols and memos in support of the OCDA DNA Program. Moreover, DDA Katz is responsible for reviewing and resolving all red-flag cases where a new DNA hit arises in an active or a completed criminal case where already another person has been convicted or charged with the crime. Finally, DDA Katz is the DNA Unit DDA responsible for handling prosecution of all Rapid DNA cases resulting from DNA hits in the local OCDA DNA Database.



Timothy Kupferschmid

Timothy Kupferschmid has over 25 years of executive management and forensic DNA testing experience. He started his career at the Armed Forces DNA Identification Laboratory and served as the Director of the Maine State Police Crime Laboratory. He worked for 10 years in private industry at Myriad Genetic Laboratories and Sorenson Forensics. In 2013, he moved to the New York City Office of Chief Medical Examiner where he leads its four laboratories—Forensic Biology, Forensic Toxicology, Molecular Genetics, and Histology. Currently, Mr. Kupferschmid serves on the Quality Infrastructure Committee of the Organization of Scientific Area Committees, is active with the American Society of Crime Laboratory Directors, and is the Chair of the North Carolina Forensic Science Advisory Board. Mr. Kupferschmid has given hundreds of scientific presentations and has co-authored numerous scientific publications. He is a Black Belt in Lean Six Sigma and has been practicing those improvement methods since 2008.



Chris Miles

Chris Miles is Deputy Director for Standards Integration and Applications in the Capability Development Support Group/Office of Standards of the Department of Homeland Security Science and Technology Directorate. He manages the Rapid DNA Program for family relationship verification and previously managed the biometrics basic research portfolio efforts in multi-biometric research, standoff biometrics, and decision fusion research. Mr. Miles served as Co-Chair of the White House National Science and Technology Council Subcommittee on Biometrics and Identity Management and is a federal liaison to the National Science Foundation Center for Identification Technology Research. Mr. Miles received his Bachelor



of Science degree in Electronics and Computer Engineering from George Mason University and previously worked for the Department of Justice, National Institute of Justice where he managed the biometric, sensor and surveillance, and firearms safety programs.

Brady Mills

Brady Mills is the Deputy Assistant Director of the Texas Department of Public Safety (DPS) Law Enforcement Support Division. In this role, he oversees the department's Crime Laboratory Service. He has served in this position since September 2014. From 1996–2014, he served in various positions within the Texas DPS Crime Laboratory Service, including Assistant Crime Laboratory Director, Quality Assurance, Forensic Scientist, CODIS Analyst, and DNA Section Manager of the Austin Laboratory. He holds a Master of Science in biology from the University of Nebraska and a Bachelor of Science in molecular biology from the University of Wyoming. He has represented the crime lab community on the National Commission on Forensic Science Accreditation and Proficiency Testing Subcommittee, and the Association of State Criminal Investigative Agencies Forensic Science Committee. He is a past Vice Chair of the Association of Forensic DNA Analysts and Administrators and a past President of the American Society of Crime Laboratory Directors.



Daniel Oates

Chief Daniel J. Oates was appointed as the 19th Chief of the Miami Beach Police Department in June 2014. Prior to his appointment in Miami Beach, Chief Oates served for nearly 9 years as the Chief of Police for the City of Aurora, Colorado. Chief Oates has also served as the Chief of Police and Safety Services Administrator for the City of Ann Arbor, Michigan; a Deputy Chief and the Executive Officer of the Brooklyn South Patrol Borough; a Commanding Officer of the New York Police Department's (NYPD) Intelligence Division; and the Chief Counsel and Commanding Officer of the NYPD's Legal Bureau. Chief Oates is a graduate of Bucknell University with a Bachelor of Arts degree in English. He graduated from New York Law School and is admitted to practice law in Colorado, New York, and New Jersey. He also holds a Master of Science degree in management from New York University. Chief Oates is a member of numerous professional associations, including the Board of Directors of the Police Executive Research Forum and the International Association of Chiefs of Police. Chief Oates also serves on the Criminal Intelligence Coordinating Council.



Timothy Palmbach

Professor Timothy Palmbach is founder of Center for Forensic Investigation of Trafficking in Persons at University of New Haven. This center is committed to providing research, training, and investigative assistance to government agencies in the United States and abroad. Since 2013, Professor Palmbach has been engaged with the implementation of advanced forensic investigative methods in the war against trafficking in persons and related issues, such as counter terrorism. He worked in conjunction with nongovernmental organizations and government officials to employ the collection of DNA-based evidence. His international work in this area includes the countries of Nepal, Costa Rica, Poland, Italy, Croatia, Bosnia, Djibouti, and Jordan.



Juan Pedroso

Juan (JC) Pedroso is a 20-year law enforcement veteran who has served as Supervisor of the Miami Beach Police Department (MBPD) Crime Scene Squad since 2007. Under his leadership, his squad greatly reduced the turnaround time of submission, evaluation, and identification of latent prints from a 7-day average to under 12 hours. Mr. Pedroso previously served as a Crime Scene Technician for the MBPD for 8 years. Mr. Pedroso has acquired over 1,600 hours of training, including courses in crime scene investigation, shooting reconstruction, death investigation, fingerprint identification, and processing scenes for biological evidence. Additionally, Mr. Pedroso is a member of the Florida Division of the International Association for Identification. He currently serves as an Advisory Member of the MBPD Cold Case Squad, manages the crime scene training for all MBPD officers, and maintains his certification as a State Law Enforcement Officer as a Reserve Officer for the MBPD.



Stephanie Regan

Stephanie Regan currently serves as a Criminalist II and the Crime Scene and Laboratory Supervisor at the Kauai Police Department in Hawaii. She specializes in crime scene processing, DNA screening, and mobile device analysis. She performed the in-house validation of the ParaDNA System and is the appointed department ParaDNA Administrator. Ms. Regan graduated from Harvard University. Her previous work at the Harvard Stem Cell Institute and Baylor College of Medicine resulted in five publications; the two most recent publications were also featured in *Time Magazine*.



Erica Romsos

Erica Romsos has a Bachelor of Science in biology from Valparaiso University and a Master of Forensic Science in forensic molecular biology from George Washington University. Ms. Romsos has worked for the Applied Genetics Group at the National Institute of Standards and Technology for 9 years, mainly focusing on rapid polymerase chain reaction (PCR) protocols, testing of integrated rapid DNA platforms, optimizing qPCR assays, and using digital PCR for characterization of the next generation of the Human DNA quantitation standard. Ms.

Romsos was awarded the 2014 Department of Commerce Silver Medal for the development of rapid forensic DNA typing techniques that enable state-of-the-art human identity testing and DNA biometrics.



Richard Selden

Dr. Richard Selden is the Founder, Chairman, and Chief Scientific Officer of ANDE. He created the company in 2004 with a vision to move DNA analysis from sophisticated laboratories to the field, where it could have a daily impact on forensic identification in military, law enforcement, and homeland security applications. He received his BA from Harvard College, his MA and PhD in genetics from the Harvard Graduate School of Arts and Sciences, and his MD from Harvard Medical School. He trained as a pediatrician at the Massachusetts General Hospital. Dr. Selden is an author on 38 scientific publications and an inventor on 42 U.S. patents.



Amanda Sozer

Before founding SNA International, Dr. Amanda Sozer began her career in at Cellmark Diagnostics and then accepted a position at Fairfax Identity Laboratories in 1992, where, as the Associate Director, she managed all aspects of the laboratory operations for paternity, convicted offender testing, and forensic casework.

Dr. Sozer served as a Technical Contractor to the National Institute of Justice, facilitating the National Institute of Justice Kinship and Data Analysis Panel for the World Trade Center Victim Identification Program and was instrumental in writing

Lessons Learned from 9/11: DNA Identification in Mass Fatality Incidents. Dr. Sozer assisted the State of Louisiana by managing the Hurricane Katrina victim DNA identification project and facilitating the Hurricane Victim DNA Identification Expert Group. In addition, Dr. Sozer currently assists governmental agencies worldwide in developing and expanding their forensic and mass fatality response programs.



Rachel Spurbeck

Dr. Rachel Spurbeck is a molecular microbiologist and geneticist with over 12 years of experience in project design and technical direction of assay development and genomics projects. She has directed various programs involving metagenomics, assay development, Short Tandem Repeat profiling of polar bears, and application feasibility assessments for state-of-the-art sequencing devices—including the MinION, a portable long-read sequencing device. Dr. Spurbeck has hands-on experience developing and executing methods and workflows for leading commercialized DNA sequencing platforms. Developed methods include ancient DNA sequencing, companion diagnostics for detection of cancer mutations, detection of organisms of interest from complex samples, epigenetic and expression profiling of bacteria and humans, and metagenomic sequencing methods. Dr. Spurbeck currently serves as the Principal Investigator for a project evaluating the MinION and RDNA devices for application in human identification.



Stephanie Stoiloff

Stephanie Stoiloff is the Commander of the Miami-Dade Police Department Forensic Services Bureau, which includes an accredited crime laboratory. Ms. Stoiloff currently serves as Co-Chair of the Forensic Science Committee for the International Association of Chiefs of Police, as well as for the Co-Chair of the Member Resource Committee for the American Society of Crime Laboratory Directors (ASCLD). Ms. Stoiloff also serves on the External Board of Advisors for the Florida International University International Forensic Research Institute. Ms. Stoiloff served on the ASCLD Board of Directors and also served as a member of the Technical Working Group for the Preservation of Biological Evidence and the Sexual Assault Forensic Examination Response (SAFER) Working Group. Ms. Stoiloff has provided presentations at national and international meetings on managing forensic operations, biological evidence preservation, and DNA analysis.



Jay Therrien

Dr. Jay Therrien has over 15 years of commercial success leading the complex sales of cutting-edge science and technology to global markets. While serving as Vice President of Worldwide Sales at RainDance Technologies, Dr. Therrien accelerated customer adoption of droplet-based digital polymerase chain reaction systems. As Vice President of Commercial Operations and Sequencing at Life Technologies, he led the sales and support activities for capillary electrophoresis and next-generation sequencing products. He held various sales leadership roles at Illumina, establishing the early commercial infrastructure throughout Asia Pacific and Japan. Jay holds a PhD from the University of Kansas and a BS from the University of Illinois at Urbana-Champaign. He also served in the United States Marine Corps.



Peter Vallone

Dr. Peter M. Vallone received his PhD in chemistry from the University of Illinois at Chicago in 1999. Afterwards, he was awarded a National Research Council (NRC) postdoctoral fellowship that brought him to the Biotechnology Division at National Institute of Standards and Technology (NIST). Over the last 17 years at NIST, Dr. Vallone has developed multiplex polymerase chain reaction assays for the detection of genetic variation, has designed methods for the rapid amplification of Short Tandem Repeat loci, and has been involved in the characterization of nucleic acid-based reference materials. As leader of the Applied Genetics Group at NIST since 2013, Dr. Vallone works with a team of researchers producing DNA reference materials; assessing emerging techniques, such as next-generation sequencing; and providing research and training that support the forensic DNA community. Dr. Vallone has published over 50 peer-reviewed articles in the areas of DNA thermodynamics and forensic DNA testing.



Kathy Webb

Kathy Webb graduated from the University of Central Florida with a Bachelor of Science and Master of Science in forensic biochemistry with minors in micro/molecular biology and chemistry. Her career began at the National Center for Forensic Science in Orlando, Florida, as a Research Assistant conducting research in the field of YSTR technology for forensic applications and the impact of post-coital cervico-vaginal swabs collected during rape investigations. Mrs. Webb moved to Arizona and began a tenure with the Arizona Department of Public Safety (AZDPS). During her time at AZDPS, she was promoted from DNA Analyst to Supervising Criminalist and DNA Casework Technical Leader. Mrs. Webb's casework consisted of sexual assaults, homicides, trace evidence, and missing/identified persons. While conducting casework, she continued with research and validations in robotics, post-amplification clean-up, and rapid DNA. Mrs. Webb left the AZDPS to continue implementation and studies in rapid DNA and massive parallel sequencing with SNA International.



Steven Weitz

Steven Weitz is a Forensic Biologist with the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) Forensic Science Laboratory, performing analysis and research on low-level DNA evidence such as firearms and post-blast explosives. Prior to joining the ATF in 2009, he was employed by Bode Technology, where he processed thousands of forensic DNA cases including the identification of victims of the World Trade Center attacks and missing individuals from civil wars throughout South America. Mr. Weitz is a member of the Organization of Scientific Area Committees' Biological Methods subcommittee and Chair of the Validation and Methods task group. He holds a Master of Science in biotechnology from Johns Hopkins University and a Bachelor of Science in biological sciences from Clemson University.



Jason Werking

Jason Werking is a Technical Account Manager who partners with forensic scientists to establish Rapid DNA programs for law enforcement, casework, and disaster victim identification applications. After deploying dozens of RapidHIT systems in crime—and mobile—labs around the world, Mr. Werking understands truly what it takes for successful implementation: It's about employing a data-driven approach to design a system that fits the mandate of the lab and the needs of the community it serves. Mr. Werking began his forensics career at the Orlando Regional Crime Laboratory for the Florida Department of Law Enforcement, performing serology and Short Tandem Repeat (STR) DNA analysis. Later with MRIGlobal, he developed microbial forensics assays and gained further proficiency in various bacterial strain identification techniques, including variable number tandem repeat (VNTR) analysis, real-time PCR analysis, Sanger sequencing, and pyrosequencing. Mr. Werking holds a Bachelor of Science in molecular biology from Florida Institute of Technology.



Ray Wickenheiser

Ray Wickenheiser is currently the Director for the New York State Police Crime Lab System, headquartered in Albany, New York. He is also a member of the American Society of Crime Laboratory Directors (ASCLD) Board of Directors and the President for 2017. Mr. Wickenheiser has over 17 years of experience as a Crime Lab Director and over 33 years in forensic science. His areas of expertise include quality management, forensic DNA, serology, hair and fiber trace evidence, physical matching and comparison, glass fracture analysis, and forensic grain comparison. Mr. Wickenheiser is a qualified ISO Auditor, conducting audits in 10 states as an Auditor and DNA Lead Auditor. He has testified as an expert witness over 90 times, published numerous scientific articles, and is a frequent presenter at workshops and conferences. Mr. Wickenheiser holds a Bachelor of Science Honors degree, a Master of Business Administration degree, and is currently pursuing a Doctoral degree.



Notes

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Handwriting practice lines consisting of 20 horizontal dotted lines.



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