A WORKSHOP
Personnel Selection in Forensic Science:
Using Measurement to Hire Pattern Evidence Examiners

July 14-15, 2016

National Academies of Sciences, Engineering and Medicine
Room #100 Keck Center
500 Fifth Street N.W.
Washington, DC 20001

Note: This workshop is open to the public and will be recorded and webcast.

Workshop Objectives

• *To bring together industrial-organizational psychologists, experts on personnel selection and testing, forensic scientists, as well as other researchers whose work has a nexus with workforce needs in the forensic science field with a focus on pattern evidence.*

• *To develop a better understanding of the current status of selection and training of forensic scientists who specialize in pattern evidence, tools used in industrial and organizational psychology to understand elements of a task, and ways aptitude and performance can be measured.*

• *To discuss how these approaches could address challenges in the pattern evidence domain of the forensic sciences.*

Day 1

8:30 a.m.	*Registration Opens*

9:00 am	**Welcome and Overview of Workshop**
	Fred Oswald, Rice University, Committee Chair
	Poornima Madhavan, BOHSI Director
	Melissa Taylor, National Institute of Standards and Technology
9:20-9:30am	**Status of Educational Preparation for Pattern Evidence Examiners**
	Jay Siegel, Retired, Committee Member
9:30-10:00am	**On-the-Job Experiences: The Task of Pattern Recognition**
	Jessica LeCroy, Defense Forensic Science Center
	Melissa Gische, Federal Bureau of Investigation

10:00-10:30am	**On-the-Job Experiences: Recruitment and Training** Maria Weir Ruggiero, Los Angeles County Sheriff's Department John M. Collins, Jr., The Forensic Foundations Group

10:30 am	*Break*

10:40-11:10am   **What is Industrial and Organizational Psychology?**
How might it be useful to forensic science?
         S. Morton McPhail, Retired, President of the Society for Industrial and
         Organizational Psychology

         Invited Discussant: Winfred Arthur, Jr., Texas A&M University, Committee
Member

11:10-11:45am   **Discussion**

11:45-12:45am	*Lunch*

12:45-1:15pm   **Test Development and Validation**
         Dan Putka, Human Resources Research Organization
         Nancy Tippins, CEB, Committee Member

1:15-2:15pm   **Discussion**

2:15pm	*Break*

2:15-2:45pm   **Attraction/Recruitment**
         Ann-Marie Ryan, Michigan State University, Committee Member
         Scott Highhouse, Bowling Green State University

2:45-3:45pm   **Discussion**

3:45-4:15pm   **Case Example** – Test Development, Considerations and Challenges
         Liberty Munson, Microsoft Learning Experiences

4:15-4:30pm   **Closing and Preview of Next Day**
         Fred Oswald, Rice University, Committee Chair

4:30 – 6:00 p.m.	*Day 1 Reception (Keck 100 and lobby)*

Day 2

8:30 a.m.	*Registration Opens*

9:00 am **Welcome, Review of Day 1, and Overview of Day 2**
Fred Oswald, Rice University, Committee Chair
Poornima Madhavan, BOHSI Director

9:10-10:30am **Identifying Constructs**
What is known about pattern recognition? How is the state of the research advancing?
Zach Hambrick, Michigan State University, Committee Member
Lisa Scott, University of Florida
Bethany Jurs, Transylvania University
Mara Merlino, Kentucky State University
Mark Becker, Michigan State University

10:30am	*Break*

10:40-11:35am **Pattern Evidence in the Courtroom**
Randall Murch, Virginia Polytechnic Institute and State University, Committee Member
Rockne Harmon, Retired Prosecutor
Marvin Schechter, Defense Attorney
Dan Murrie, University of Virginia

Invited Discussant: Mara Merlino, Kentucky State University

11: 35am-12:15pm **Discussion**

12:15-12:45pm **Major Themes from Workshop**
Wendy Becker, Shippensburg University
Andrew Imada, A.S. Imada & Associates, Committee Member
Ann-Marie Ryan, Michigan State University, Committee Member

12:45pm **Closing Remarks**
Fred Oswald, Rice University, Committee Chair

1:00 p.m. ADJOURN

Division of Behavioral and Social Sciences and Education
Board on Human-Systems Integration

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Committee Member Biographies

Frederick L. Oswald (chair) is a professor in the department of psychology at Rice University. His research, publications, grants, and graduate-student training focus on workforce readiness, personnel selection, and psychological measurement issues within occupational, military, and educational settings. He is currently a member of the DBASSE Board on Human-Systems Integration as well as a member on the Academies committees on Measuring Human Capabilities: Performance Potential of Individuals and Collectives and on Assessing Intrapersonal and Interpersonal Competencies. He serves as associate editor of *Psychological Methods*, *Journal of Management*, *Research Synthesis Methods* and *Journal of Research in Personality*. He is the President Elect of the Society for Industrial and Organizational Psychology. He is a Fellow of the American Psychological Association, American Psychological Society, Society for Industrial and Organizational Psychology, and Evaluation, Measurement and Statistics. He received his Ph.D. in industrial and organizational psychology from the University of Minnesota.

Winfred Arthur, Jr. is a full professor of psychology and management at Texas A&M University in the department of psychology and the Mays Business School. He is a fellow of the Society for Industrial and Organizational Psychology, the Association of Psychological Science, and the American Psychological Association. He is currently an associate editor of *Human Performance*, is a past associate editor of *Journal of Applied Psychology*, and currently serves on the editorial boards of *Journal of Applied Psychology*, *Personnel Psychology*, and *Industrial and Organizational Psychology: Perspectives on Science and Practice*. His current research is broadly in the domains of (1) individual and team training with a focus on complex skill acquisition and factors related to minimizing skill decay and enhancing retention. This line of research also focuses on training design features and their relationship to the effectiveness of organizational training; (2) personnel psychology with an emphasis on testing, assessment, selection, validation, and associated methodological issues including but not limited to meta-analysis; and (3) the identification and examination of individual difference variables related to driving behaviors and vehicle crash involvement. He has been active in human resource consulting since 1984 and has been the principal of Winfred Arthur, Jr. Consulting since 1989. He received his Ph.D. in industrial/organizational psychology from the University of Akron.

David Zachary Hambrick is a professor in the department of psychology at Michigan State University. He is an expert on individual differences in cognition, and is highly experienced in the use of psychometric research methods and multivariate statistical techniques. His research combines experimental and correlational approaches to understand the interaction between individual differences and task/situational constraints in complex cognition. He uses standard cognitive paradigms and psychometric tests, and analyzes data using multivariate statistical techniques such as structural equation modeling. He has served as statistical/methodological consultant for NIH-funded research concerning individual differences in cognition. He is an associate editor of the *Journal of Experimental Psychology: General*, and a member of the editorial board for *Intelligence*. He has published over 50 scientific articles, and has written for the *New York Times, Slate, Scientific American*, and *Huffington Post*. He received his J.D. from Columbia University School of Law

Andrew S. Imada is a specialist in human and organizational change and a certified professional ergonomist. He was a professor of ergonomics and safety sciences at the University of Southern California for 19 years. He also served as the director of the USC Safety Science Center and the International Distance Learning Liaison at the university's Center for Scholarly Technology. He is a past president of the Human Factors and Ergonomics Society and also past president of the International Ergonomics Association. He won the 1998 Liberty Mutual Prize and the 2000 Liberty Mutual Medal in international competitions for occupational safety and ergonomics research. His work focuses on helping people and organizations change to improve productivity, safety, quality, and work systems. He was a visiting scholar at Luleå University in Sweden, teaching graduate courses on implementing participatory strategies for improving safety, ergonomics and productivity and has served on the Board of Consulting Editors for the *Journal of Applied Psychology*. He has served as a director on the Board of Certification in Professional Ergonomics and is a fellow of the Human Factors and Ergonomics Society and the International Ergonomics Association. He earned his bachelor of arts in psychology and business from the University of San Francisco and his masters and doctoral degrees from The Ohio State University in industrial and organizational psychology.

Randall Murch is a professor in practice, in the School of Public and International Affairs, and research lead, in the Office of the Vice President for the National Capital Region, at Virginia Polytechnic Institute and State University. He is also visiting faculty at King's College London and the University of North Texas Health Science Center, Institute for Investigative Genetics, Ft. Worth. His research is primarily focused on biosecurity, biosurveillance, advanced forensic science including microbial forensics, and advancing national and global security capabilities at the interfaces of science, operations, analysis, law and policy. Prior to joining Virginia Tech, he was a research staff member at the Institute for Defense Analyses. From January 1980 through November 2002, he was a special agent, supervisory special agent and senior executive with the Federal Bureau of Investigation. During his career, he served as a forensic biologist, research scientist, department head and deputy director, and as a unit chief and deputy director of a large, engineering division in which several units were focused on forensic disciplines. While a senior executive in the FBI Laboratory, he led its overhaul and accreditation and the forensic response to several major international and national terrorism and other incidents. He also created the first

forensic program to support the investigation and attribution of terrorism, proliferation and warfare involving nuclear, biological and chemical weapons. He holds a B.S. in biology from the University of Puget Sound, a M.S. in botanical sciences from the University of Hawaii and a Ph.D. in plant pathology from the University of Illinois.

Ann Marie Ryan is a professor of organizational psychology at Michigan State University. Her major research interests involve improving the quality and fairness of employee selection methods, and topics related to diversity and justice in the workplace. In addition to publishing extensively in these areas, she regularly consults with organizations on improving assessment processes. She is a past president of the Society of Industrial and Organizational Psychology, past editor of the journal *Personnel Psychology*, and past associate editor of *American Psychologist*. She has a long record of professional service on professional association and federal committees. In 2011 she received the Distinguished University Professor Award from MSU. She received her B.S. with a double major in psychology and management from Xavier University, Ohio, and her M.A. and Ph.D. in psychology from the University of Illinois at Chicago.

Jay A. Siegel is a consultant in forensic science and emeritus professor of forensic science - Michigan State University. From 1980 to 2004, he was professor of forensic chemistry and director of the forensic science program at Michigan State University in the School of Criminal Justice. In 2004, he moved to Indiana University, Purdue University, Indianapolis to become director of the forensic and investigative sciences program, a position that he held until August of 2011. Previously, he worked at the Virginia Bureau of Forensic Sciences, analyzing drugs, fire residues and trace evidence and was a professor of chemistry and forensic science at Metropolitan State College. He has testified over 100 times as an expert witness in 12 states, Federal Court and Military Court. He is editor in chief of the *Encyclopedia of Forensic Sciences* and has over 30 publications in forensic science journals. He has published a college text book entitled *Fundamentals of Forensic Science* for Elsevier and a high school forensic science textbook *Forensic Science: The Basics* published by CRC. Both are 2nd editions. His book F*orensic Science: A Beginner's Guide* came out in 2008, and his latest book, *Forensic Chemistry: Fundamentals and Applications*, which he edited, was published in 2015. In February 2009, he was named Distinguished Fellow by the American Academy of Forensic Sciences. In April 2009 he was given the Distinguished Alumni Scholar Award by his alma mater, George Washington University. He holds a Ph.D. in analytical chemistry from George Washington University.

Nancy Tippins is a principal consultant at CEB. She has extensive experience in the development and validation of selection tests and other forms of assessment for all levels of management and hourly employees as well as in designing performance management programs and leadership development programs. She has worked extensively with computer-based test administration, developing her first computer administered test and test administration platform in 1991. She previously worked as an internal consultant in large Fortune 100 companies developing and validating selection and assessment tools. She participated in the 1999 revision of the Principles for the Use and Validation of Personnel Selection Procedures, co-chairs the

current revision of the Principles, sat on the most recent committee to revise the Standards for Educational and Psychological Testing, and served as a U.S. representative on the committee to create the ISO 9000 standards for assessment. She is active in professional affairs and is a past president of Society for Industrial and Organizational Psychology (SIOP). She is a fellow of SIOP, the American Psychological Association (APA), and the Association for Psychological Science (APS). She received her M.S. and Ph.D. degrees in industrial and organizational psychology from the Georgia Institute of Technology.

Biographies of the Invited Participants

Mark W. Becker is an associate professor and the associate chair and director of undergraduate education in the department of psychology at Michigan State University. He worked for five years as an assistant professor at Lewis & Clark College in Portland, OR before joining the faculty at Michigan State University. He is the director of the Attention and Perception Lab within the Cognition and Cognitive Neuroscience Program. His lab investigates basic processes that influence the allocation of visual attention, and the role that attention plays in creating stable mental representations of objects and scenes. In recent years, his lab has begun to translate basic research on attention to practical application. This work applies basic methods from visual cognition to the design and evaluation of more effective medication, medical device, and nutrition labels. In addition, his lab investigates the mechanisms responsible for failing to detect targets during visual search, with a particular emphasis on how target prevalence rates, feedback, and individual differences impact search performance. He received his masters and Ph.D. in experimental psychology from the University of California, San Diego.

Wendy S. Becker is professor of management, Shippensburg University. She teaches courses in the United States, Austria, Portugal, Spain and the United Kingdom. Her applied research interests include experiential learning, evaluation of training, motivation and ethics. She is co-author of *The Crime Scene: How Forensic Science Works* and *Applying Business Principles to Laboratory Management* (with W. Mark Dale). She has received research and teaching awards from the Academy of Management, the Academy of Human Resource Development, the International Conference on College Teaching and Learning and the Mid-Atlantic Association of Colleges of Business Administration. She is a fellow of the *Society of Industrial-Organizational Psychology*. Previously, she served as Editor of *The Industrial-Organizational Psychologist*. She is current President of the Executive Board, Metropolitan New York Association of Applied Psychology (METRO). She earned her Ph.D. in Industrial/Organizational Psychology from the Pennsylvania State University.

John M. Collins, Jr. is a principal instructor and consultant at the Forensic Foundations Group. He is the executive director of the Forensic Science Chamber of Commerce which produces synergy and cooperation among forensic science professionals and businesses having the common goal of increasing the reliability and efficiency of forensic science. From 2012 to 2014, he was the forensic science policy and management advisor for RTI International, and he was the forensic science division director at the Michigan State Police from 2010 to 2012. He has held various crime laboratory positions, such as crime laboratory director (2000-2010) and firearm and toolmark examiner (1998-2000) at the DuPage County Sheriff's Office. He also was the firearm and toolmark examiner at the Atlanta Forensic Science Laboratory, Bureau of Alcohol, Tobacco, and Firearms, U.S. Department of Treasury (1996-1998) and at the Division of Forensic Sciences, Georgia Bureau of Investigation (1993-1996). He has a M.A. in organizational management from University of Phoenix and a B.S. in forensic science from Michigan State University.

Melissa R. Gische is a physical scientist/forensic examiner in the Latent Print Operations Unit at the Federal Bureau of Investigation Laboratory in Quantico, VA. She has qualified as an expert witness in the discipline of latent prints and testified in federal and state court. She is chair of the Organization of Scientific Area Committees (OSAC) Friction Ridge Subcommittee and the International Association for Identification (IAI) Latent Print Identification Subcommittee. She received a bachelor's of science degree in psychobiology from the University of California, Los Angeles and a masters of forensic sciences degree in forensic science from The George Washington University.

Rockne P. Harmon is currently employed as a consultant to numerous law enforcement agencies dealing with such issues as cold case investigation and other issues related to forensic DNA typing. He had been an instructor at the University of California, Davis in the forensic science program from 2007-2015. He retired in 2007 after a 33 year career as a senior deputy district attorney for Alameda County, California. He is a fellow of the American Academy of Forensic Sciences. He was the prosecutor in a triple murder case that established the general acceptance of conventional serological methods, the precursor to today's DNA technology (People v. Lawrence Reilly). As a result of that case, he was in a position to assist the forensic science community as it began the implementation of DNA typing soon thereafter. He has written and lectured extensively on the subject of the admissibility of forensic evidence, particularly DNA evidence. He has received awards from the FBI Director for his efforts supporting the FBI in their first decade of DNA typing and the Achievement Award from the International Homicide Investigators' Association for his work on cold cases. He was one of the prosecutors in People v. O. J. Simpson. He graduated from the U.S. Naval Academy in 1967 and served four years active duty. He served a combat tour in Vietnam as Officer in Charge of a Navy Swift Boat and received the Purple Heart for wounds received in combat. After his military service he attended the University of San Francisco Law School.

Scott Highhouse is a professor and Ohio Eminent Scholar in the department of psychology, Bowling Green State University. He is the founding editor of the journal *Personnel Assessment and Decisions*. He has been named a fellow of the American Psychological Association, the Association for Psychological Science, and the Society for Industrial Organizational Psychology. He formerly worked in organizational development at Anheuser Busch Companies in St. Louis, MO. His primary areas of expertise are assessment/selection for employment, and human judgment/decision making. His work has been featured in the popular press, including the *Washington Post*, *Wall Street Journal*, *Fortune*, *The Guardian*, and *The Boston Globe*. He received his Ph.D. from the University of Missouri.

Bethany Jurs is an assistant professor at Transylvania University in Lexington, Kentucky. Her research uses both behavioral and electrophysiological measures to understand the development of visual mechanisms throughout the course of development of visual expertise. Specifically she has worked with fingerprints examiners to understand how their visual systems overcome the visual noise and distortions found in latent prints and allow them to successfully identify if two prints come from the same source. She has a B.A. in psychology from Purdue University and a dual Ph.D. in cognitive neuroscience and cognitive science from Indiana University.

Jessica LeCroy is the technical leader for the Latent Print Branch with the Defense Forensic Science Center (DFSC), with a focus on the disciplines of latent prints, footwear, and tire track evidence. She directs the training program for new hires, coordinates research endeavors, and continually reviews, updates, and implements policies and procedures within DFSC Latent Prints. In addition, she monitors the quality of the casework and institutes corrective actions as needed to address any deficiencies. She also arranges annual proficiency testing of all DFSC latent print examiners and ensures results meet the quality standards of the DFSC. She has 12 years of experience, acting as a bench examiner and as technical leader, to include over 50 testimonies in state, Federal, and international courts. She has provided training in her current capacity with the DFSC and in her former position as technical leader with the Georgia Bureau of Investigation to employees, local agencies, and military personnel. She holds a B.A. in environmental science from Samford University in Birmingham, Alabama.

S. Morton McPhail has practiced industrial/organizational psychology for more than 35 years before retiring in 2013. In 1981, he co-founded Jeanneret & Associates and became a principal of the firm. Upon merger, he became a senior vice president with Valtera, a position he continued to hold after Valtera joined CEB until his retirement in 2013. His clients included major municipalities, the federal government, and private sector organizations ranging from small family businesses to Fortune 100 companies. He served as an expert in litigation involving such diverse issues as job analysis, selection practices, equal employment opportunity, compensation, reductions in force, and statistical analyses. His consulting work included audits of existing selection procedures, development and validation of an array of scientifically based assessment tools, creation of performance management systems, and development of training and development programs. Until his retirement, he was a licensed psychologist and served for 15 years on a Texas psychology board committee responsible for the state's jurisprudence and ethics examination for licensure. He is a fellow of the Society for Industrial and Organizational Psychology and its current President. He has published journal articles and book chapters, edited a volume in SIOP's Professional Practice Series titled *Alternative Validation Strategies: Developing New and Leveraging Existing Validity Evidence*. He is adjunct faculty for the University of Houston and Rice University. He received his undergraduate degree in psychology from Trinity University and graduate degrees from Colorado State University.

Mara Merlino is currently an associate professor of psychology and sociology and coordinator of the M.A. Program in interdisciplinary behavioral science at Kentucky State University. She has directed or supervised research projects under the auspices of organizations such as the Federal Judicial Center, The National Judicial College, the State Justice Institute, and the National Council of Juvenile and Family Court Judges. Her current research focuses on investigating the reliability and validity of the methods and findings of forensic document examination. This research contributes to the extant knowledge about the nature of expertise related to forensic document examination, the evaluation and interpretation of the salient features of signature specimens, and the social influences inherent in the context of forensic document examination. She is a member of the NIST Organization of Scientific Area Committees (OSAC) Physics/Pattern Evidence Scientific Area, Questioned Documents Subcommittee and Subcommittee Liaison to the Human Factors Committee, and the NIST/NIJ Expert Working Group on Human Factors in Handwriting Examination. Her doctoral dissertation, titled The

Social Construction of the Admissibility of Expert Testimony after Daubert v. Merrell Dow Pharmaceuticals, Inc., investigated judicial decision making in published U.S. District Court cases in which the admissibility of several areas of expert testimony were challenged. She earned her doctoral and master's degrees in social psychology from the University of Nevada, Reno.

Liberty Munson is the principal psychometrician for Microsoft Learning--probably the best job at Microsoft. She is responsible for ensuring that certification exams are valid and reliable measures of the content areas that they are intended to measure. She ensures that psychometric standards are rigorously applied during all phases of the certification exam lifecycle. Prior to Microsoft, she worked at Boeing where she developed a wide variety of selection tests, including multiple-choice exams, team-based exercises, problem solving activities, and structured interviews; she also assisted with the development and analysis of Boeing's internal certification exams and acted as a co-project manager overseeing development, administration, and analysis of Boeing's employee survey. She received her B.S. in psychology from Iowa State University and M.A. and Ph.D. in industrial/organizational psychology with minors in quantitative psychology and human resource management from the University of Illinois at Urbana-Champaign.

Daniel Murrie serves as director of psychology at the Institute of Law, Psychiatry and Public Policy (ILPPP), a professor in the department of psychiatry and neurobehavioral sciences at the University of Virginia, School of Medicine, and an instructor in the UVA School of Law. He oversees the state-wide training program-a unique state/academic partnership-for psychologists and psychiatrists learning to perform court-ordered forensic evaluation. As a forensic psychologist, he performs a variety of criminal and civil forensic evaluations of juveniles and adults, both within the ILPPP's forensic clinic and in a private practice. As a researcher, he has co-authored 50 peer-reviewed scientific publications, three books, and numerous book chapters, all addressing forms of forensic mental health evaluation. Much of his recent work comprises programatic research addressing reliability and bias in forensic evaluations. Recently, this work has expanded to include collaboration with the forensic science community to consider bias and reliability in other forensic disciplines as well. He received his Ph.D. in clinical psychology from the University of Virginia.

Dan Putka is a principal staff scientist at the Human Resources Research Organization in Alexandria, Virginia. Over the past 15 years, he has helped numerous organizations develop, evaluate, and implement assessments to (a) enhance their hiring and promotion processes, and (b) guide individuals to career and job opportunities that fit them well. He has also led several large-scale analytics projects to identify key drivers of employee engagement and turnover and improve personnel selection and performance management systems. Complementing his client-centered work, he has maintained an active presence in the I-O scientific community, focusing on advancing psychometric and analytic methods that are sensitive to the demands of applied research and practice. Along these lines, he has delivered numerous presentations and invited workshops at national conferences, published over 20 book chapters and articles in top-tier journals, and serves on the editorial board of five scientific journals. He is a past-president of the Personnel Testing Council of Metropolitan Washington, and a fellow of APA and three of its divisions to include the Society for Industrial and Organizational Psychology, APA's

Quantitative and Qualitative Methods Division, and the Society for Military Psychology. He holds a Ph.D. in industrial-organizational psychology with a specialization in quantitative methods from Ohio University.

Maria C. Ruggiero is a supervising forensic identification specialist in the Latent Print Unit of the Los Angeles County Sheriff's Department Crime Laboratory, where she currently oversees the latent print comparison and crime scene investigation training programs. She has worked in the forensic scene discipline since 1990, performing latent print comparisons as well as processing crime scenes. She is active in the Los Angeles latent print community, where she is a member of the Los Angeles County Forensic Supervisors Group which provides training, education and information on the latest advances, court cases, and challenges in the latent print arena. From 2008-2011, she served as a member of the Expert Working Group on Human Factors in Latent Print Analysis, sponsored by the National Institute of Justice, to look at reducing the risk of errors in forensic operations. From 2010 through 2013, she was selected as a member of the Scientific Working Group on Friction Ridge Analysis, Study and Technology (SWGFAST). This working group was tasked with establishing guidelines for the development and enhancement of friction ridge examiners' knowledge, skills and abilities. In October 2014, she was selected to participate in the National Institute of Standards and Technology (NIST) friction ridge Organization for Scientific Area Committee (OSAC). OSAC will coordinate development of standards and guidelines for the forensic science community to improve quality and consistency of work in the forensic science community. She holds a bachelor's degree in public administration, with a concentration in criminal justice, and a masters degree in negotiation and conflict management both from California State University, Dominguez Hills.

Marvin E. Schechter has been a criminal defense attorney for 42 years based in New York City. His diverse caseload has included every conceivable (and some inconceivable) crimes from parking tickets to homicides and from homeless persons to corporate officials. He served nine years on the Board of Directors of the National Association of Criminal Defense Lawyers (NACDL) during which time he served on several NACDL committees including Bylaws, Audit, Nominating, Indigent Defense, Budget and the Forensic Sciences. He was a member of the NACDL Task Force on DNA Searching which issued recommendations, approved by the NACDL Board of Directors, governing the use of partial and familial match searches by law enforcement. He served on the committee that authored "Strengthening Forensic Science in the United States: A Path Forward," issued by the National Research Council and is a member of the New York State Commission on Forensic Science. He has been an adjunct professor at Fordham Law School, has conducted training for the NYS Office of Court Administration and the Attorneys for Children Programs of the NYS Appellate Division (3d Dept.). He was a co-chair of the initial formation committee of the National College of Forensic Science, a joint effort of the National Association of Criminal Defense Attorneys and the Cardozo Law School, dedicated to training attorneys across the United States in forensic sciences and related legal issues. The first college class took place this June, 2013 in New York City. Recently, he was appointed to the Accreditation Subcommittee #2 of the National Commission on Forensic Science.

Lisa Scott is an associate professor of psychology at the University of Florida. Previously, she was at the University of Massachusetts Amherst. The overarching goal of her research is to advance understanding of the processes underlying human learning during development (from

infancy into childhood) and during the acquisition of adult perceptual expertise. She is particularly interested in the importance of experience in shaping later learning and recognition of people and objects. She utilizes behavioral measures, measures of looking time and eye-fixations, and brain recordings of event-related potentials (ERPs) and steady-state visual evoked potentials (ssVEPs) to try to better understand how people at different stages and with different levels of experience learn about the surrounding world. Her work lies at the intersection of developmental psychology, adult cognitive psychology, social perception and cognitive neuroscience. In her studies with adults, her research group has focused on understanding the acquisition of expertise through controlled laboratory training. Her group has identified robust behavioral and neural markers of perceptual expertise and developed an effective perceptual training paradigm for use with several classes of visual objects. She received her Ph.D. from the University of Minnesota.

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COMMITTEE MEMBERS

Fred L. Oswald, Chair
Rice University

Winfred Arthur, Jr.
Texas A&M University

D. Zachary Hambrick
Michigan State University

Andrew S. Imada
A.S. Imada & Associates

Randall S. Murch
Virginia Polytechnic Institute
and State University

Ann Marie Ryan
Michigan State University

Jay A. Siegel
Independent Consultant

Nancy T. Tippins
CEB

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Wendy S. Becker
Shippensburg University

John M. Collins, Jr.
The Forensic Foundations Group

Melissa R. Gische
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Jessica LeCroy
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S. Mort McPhail
Society for Industrial and Organizational
Psychology

Mara Merlino
Kentucky State University

Liberty Munson
Microsoft Learning Experiences

Daniel Murrie
University of Virginia

Dan Putka
HumRRO

Maria C. Ruggiero
Los Angeles County Sheriff's Department
Crime Laboratory

Lisa Scott
University of Florida

Marvin E. Schechter
Defense Attorney

Melissa Taylor
National Institute of Standards and
Technology

OTHER ATTENDEES

Susan Ballou
National Institute of Standards and
Technology

Brett Bishop
Washington State Patrol

Gregory Dalzell
U.S. Secret Service

Christine Davis
Federal Bureau of Investigation

Gregory Dutton
National Institute of Justice

Heidi Eldridge
RTI International

Paul Emanovsky
Defense POW/MIA Accounting Agency

Rebecca Fitch
U.S. Department of Education (Retired)

Wesley Grose
Los Angeles County Sheriff's Department
Crime Laboratory

Scot Holliday
Change Tactics

William Leiserson
National Institute of Justice

Kelly Long
George Washington University

Patricia Manzolillo
U.S. Postal Inspection Service

Jonathan McGrath
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Poornima Madhavan, BOHSI Director

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The National Academies of
SCIENCES · ENGINEERING · MEDICINE

Pattern and Impression Evidence

Pattern and impression evidence includes any markings produced when one object comes into contact with another object, such as fingerprints, shoeprints, toolmarks, and tire treads. It also includes pattern analysis, such as is used when evaluating handwriting, typewriting, and writing instruments.

•Bloodstains

•Firearms and Toolmarks

•Latent Prints/Tenprints

•Ondontology (Bitemarks)

•Questioned Documents

•Shoeprints and Tire Treads