

# **Law Enforcement Use of Probabilistic Genotyping, Forensic DNA Phenotyping, and Forensic Investigative Genetic Genealogy Technologies: A Workshop**

## **Committee**

### **Alicia L. Carriquiry**

#### **Chair**

Alicia Carriquiry (NAM) is professor of statistics at Iowa State University. Between January of 2000 and July of 2004 she was Associate Provost at Iowa State. Her research interests are in Bayesian statistics and general methods. Her recent work focuses on nutrition and dietary assessment, as well as on problems in genomics, forensic sciences and traffic safety. Dr. Carriquiry is an elected member of the International Statistical Institute and a fellow of the American Statistical Association. She serves on the Executive Committee of the Institute of Mathematical Statistics and has been a member of the Board of Trustees of the National Institute of Statistical Sciences since 1997. She is also a past president of the International Society for Bayesian Analysis (ISBA) and a past member of the Board of the Plant Sciences Institute at Iowa State University. Dr. Carriquiry is editor of *Statistical Sciences* and of *Bayesian Analysis*, and serves on the editorial boards of several Latin American journals of statistics and mathematics. She has served on three National Academy of Sciences committees: the Subcommittee on Interpretation and Uses of Dietary Reference Intakes; the Committee on Evaluation of USDA's Methodology for Estimating Eligibility and Participation for the WIC Program and the Committee on Third Party Toxicity Research with Human Research Participants. Currently, she is a member of the standing Committee on Applied and Theoretical Statistics of the National Research Council, the Committee on Assessing the Feasibility, Accuracy and Technical Capability of a Ballistics National Database of the National Research Council and of the Committee on Gender Differences in the Careers in Science, Mathematics and Engineering Faculty of the National Academy of Sciences. She is a member of the Federal Steering Committee Future Directions for the CSFII/NHANES Diet/Nutrition Survey: What we Eat in America. She received a M.Sc. in animal science from the University of Illinois, and a M.Sc. in statistics and a PhD in statistics and animal genetics from Iowa State University.

## **Sarah Chu**

### **Member**

Sarah Chu is the director of policy and reform and leads the Perlmutter Center's forensic science policy initiatives. Prior to joining the Perlmutter Center, Dr. Chu led the Innocence Project's policy portfolio on forensic science, forensic medicine, and police investigative technologies for 15 years. Her research interests include oversight and accountability of criminal investigative and forensic science methods and technologies; their ethical, legal, and social implications; and capacity for just and equitable implementation. Dr. Chu served on the Scientific Inquiry and Research Subcommittee of the National Commission on Forensic Science and was the 2021 recipient of the Legal Aid Society's Magnus Mukoro Award for Integrity in Forensic Science. A graduate of the University of California, San Diego, she holds BS degrees in Biochemistry/Cell Biology, Communication, and a MS in Biology. She also holds a MS in Epidemiology from Stanford University and completed her doctorate in Criminal Justice at John Jay College of Criminal Justice/CUNY Graduate Center. Dr. Chu is a member of the 2023- 2024 class of the Harvard Medical School Center for Bioethics Fellowship Program.

## **Michael Coble**

### **Member**

Michael Coble is an associate professor and the executive director of the Center for Human Identification at the University of North Texas Health Science Center in Fort Worth, Texas. He was an NRC Post-Doctoral Fellow at the National Institute of Standards and Technology. He has over 100 peer-reviewed publications in the areas of forensic DNA analysis and interpretation and is recognized among the top 2% of highly cited researcher worldwide, and in the top 100 of highly cited researchers in the U.S. in the area of forensic and legal medicine. He is a fellow of the American Academy of Forensic Sciences. Over his 28-year career in forensics, Dr. Coble has helped to resolve a number of high-profile historical cases using DNA testing including the two missing Romanov children and the unknown child of the RSS Titanic. He first characterized a set of novel non-CODIS DNA markers useful for degraded DNA, three of which have been adopted world-wide as standard markers for current DNA testing. He received his BS in Biology from the Appalachian State University, his MS in Forensic Science (concentration in Molecular Biology) and his PhD in Genetics from The George Washington University.

## **Heather McKiernan**

### **Member**

Heather McKiernan is the senior manager of Forensics at RTI International, where she serves as the Forensic Services Program Manager for the National Missing and Unidentified Persons System (NamUs). In this capacity, she facilitates forensic and analytical services including anthropology, odontology, fingerprint analysis, traditional DNA testing, and forensic genetic genealogy for missing, unidentified, and unclaimed persons cases across the United States. She is an accomplished professional with experience spanning academia, research, casework, and executive leadership as a Laboratory Director overseeing operations. Throughout her career, she has worked to develop best practices for forensic evidence collection, testing, interpretation, and presentation in court. Dr. McKiernan is a Fellow of the American Academy of Forensic Sciences (AAFS), the International Society of Forensic Genetics (ISFG), and a member of the Vidocq cold case investigation unit. She has served as a guest editor for the journal *Forensic Science International: Genetics*, co-chair of the 2022 ISFG Congress, as a member of the OSAC Biological Data and Reporting Subcommittee, and past president of the Council of Forensic Science Educators (COFSE). She received her MS in Forensic Science from Arcadia University and her PhD in Biological Sciences from the University of Denver.

## **Craig O'Connor**

### **Member**

Craig O'Connor is the deputy director in the Forensic Biology Department of the New York City Office of Chief Medical Examiner, the largest public forensic DNA laboratory in the United States with a staff of over 200. He oversees laboratory functions involving the processing of evidentiary material from a range of case types using DNA methods, applying statistical analysis using probabilistic genotyping to those cases as well as bringing on new and emerging technologies. He also holds a position as Clinical Assistant Professor in the Department of Forensic Medicine at New York University Grossman School of Medicine and previous adjunct positions at John Jay College of Criminal Justice and the College of Mount St. Vincent's having taught courses in forensic biology and forensic science. Dr. O'Connor has provided expert testimonies over 80 times in jurisdictions inside and outside of New York City at the local and federal level since 2008, including admissibility hearings about the general acceptance of DNA technologies. He is a fellow in the American Academy of Forensic Sciences (AAFS) as well as a member of the International Society of Forensic Genetics (ISFG) and the American Society of Crime Laboratory Directors (ASCLD) and a trained Technical Assessor of the ANSI National Accreditation Board (ANAB). Dr. O'Connor received an MS and PhD in Genetics and Genomics from the University of Connecticut with an emphasis in forensic DNA identification and population genetics.

# **Natalie Ram**

## **Member**

Natalie Ram is professor of law at the University of Maryland Francis King Carey School of Law and adjunct faculty with the Berman Institute of Bioethics at Johns Hopkins University. Professor Ram is a leading scholar on the intersection of genetic privacy and the criminal legal system, including investigative genetic genealogy and the development and trade secrecy surrounding privately developed probabilistic genotyping tools. Professor Ram is an elected member of the American Law Institute, and she was a 2021 Greenwall Faculty Scholar in Bioethics. She previously clerked for Associate Justice Stephen G. Breyer, U.S. Supreme Court, and for Judge Guido Calabresi, U.S. Court of Appeals for the Second Circuit. Professor Ram earned her JD at Yale Law School and AB in public and international affairs at Princeton University.