

WORKSHOPS

Pre-Registration Required — \$200 w/registration; \$250 workshop only

#16 DNA Mixture Interpretation: Principles and Practice in Component Deconvolution and Statistical Analysis

Tuesday, February 19, 2008

8:30 a.m. - 5:00 p.m.

6.75 CE Hours

Educational Objectives: This workshop will teach participants the basic principles behind DNA mixture interpretation and then will work through multiple mixture examples manually and with computer programs.

Impact on the Forensic Community and/or Humanity: DNA mixture interpretation represents an important and time consuming aspect of forensic DNA casework analysis. This workshop will help participants gain a better understanding of principles in solving mixtures and reporting the results.

Chair:

John M. Butler, PhD

National Institute of Standards and Technology
Gaithersburg, MD

Co-Chair:

Gary G. Shutler, PhD

Washington State Police Crime Laboratory
Seattle, WA

Co-Chair:

Ann Marie Gross, MS

Minnesota Bureau of Criminal Apprehension
St. Paul, MN

Faculty:

George R. Carmody, PhD

Carleton University
Ottawa, Ontario
Canada

Angela M. Dolph, BS

Marshall University
Huntington, WV

Joanne B. Sguelia, BA

Massachusetts State Police Crime Laboratory
Maynard, MA

Timothy S. Kalafut, PhD

United States Criminal Investigation Laboratory
Forest Park, GA

Program Description: As forensic DNA scientists try to secure information from difficult samples that are degraded or diminished in amount, they are faced with results that are often challenging to interpret. Mixtures and partial profiles are becoming more common as investigators increasingly request analysis of evidence from burglaries or touch evidence. Examples will be worked illustrating the statistical approaches used following mixture deconvolution. The status of software solutions for mixture interpretation will be examined.

Program:

8:30 a.m. - 9:00 a.m.	Background and Introductory Information <i>John M. Butler, PhD</i>
9:00 a.m. - 9:15 a.m.	Survey on Numbers and Types of Mixtures Across Labs <i>Ann Marie Gross, MS</i>
9:15 a.m. - 10:15 a.m.	Principles in Mixture Interpretation <i>John M. Butler, PhD</i>
10:15 a.m. - 10:30 a.m.	Break

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Program cont.

10:30 a.m. - 11:30 a.m.	Strategies for Mixture Deconvolution <i>John M. Butler, PhD</i>
11:30 a.m. - 12:00 p.m.	Different Approaches to Statistical Analysis of Mixtures <i>George R. Carmody, PhD</i>
12:00 p.m. - 1:15 p.m.	Lunch Break
1:15 p.m. - 1:30 p.m.	Real Case Example – Importance of Properly Stating Your Conclusions <i>Gary G. Shutler, PhD</i>
1:30 p.m. - 2:15 p.m.	Variability Between Labs in Approaches and Summaries of Mixture Interlaboratory Studies <i>John M. Butler, PhD</i>
2:15 p.m. - 2:45 p.m.	Validation Studies and Preparing Mixture Interpretation Guidelines for Your Laboratory <i>Joanne B. Sguelia, BA</i>
2:45 p.m. - 3:00 p.m.	Break
3:00 p.m. - 3:15 p.m.	Testing of Mixture Software Programs <i>Angela M. Dolph, BS</i>
3:15 p.m. - 4:00 p.m.	DNA Data Analysis Software Demonstration <i>Timothy S. Kalafut, PhD</i>
4:00 p.m. - 4:45 p.m.	Training Your Staff to Consistently Interpret Mixtures <i>Anne Marie Gross, MS; Gary G. Shutler, PhD; Joanne B. Sguelia, BA</i>
4:45 p.m. - 5:00 p.m.	Questions and Answers

Targeted Audience: Criminalistics

Knowledge Level Required: Advanced (Highly Technical)

Expected Handout Length: 150 Pages