

# Forensic Y-STR Training

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## Agenda

### Monday

- 9:00 – 9:30 Introductions and Pre-Test
- 9:30 – 11:00 Y Chromosome: Molecular Biology and Mutations, Karen Howard, M.S.
- 11:00 – 12:00 Y Chromosome: Genetics and Anthropology (Part 1), Karen Howard, M.S.
- 12:00 – 1:00 Lunch (Attendee Meet & Greet)
- 1:00 – 2:00 Y Chromosome: Genetics and Anthropology (Part 2), Karen Howard, M.S.
- 2:00 – 3:00 Y Chromosome: Evolution and Forensic Applications, Karen Howard, M.S.
- 3:00 – 4:00 Y Quantification: Quantifiler Duo, Sarah Bowen, M.S.

### Tuesday

- 8:00 – 8:30 Quantifiler Duo Laboratory Exercises, Sarah Bowen, M.S., E.W. Laboratory
- 8:30 – 10:00 Quantifiler Duo Data Analysis with SDS v1.2.3, Sarah Bowen, E.W. Classroom
- 10:00 – 11:00 Y Quantification: Plexor, Sarah Bowen, M.S.
- 11:00 – 12:00 Plexor Laboratory Exercises, Sarah Bowen, M.S., EW Laboratory
- 12:00 – 1:00 Lunch (Attendee Dialogue and SOP Sharing)
- 12:30 – 1:30 Plexor Data Analysis with Plexor Analysis Software, Sarah Bowen, M.S., EW Laboratory
- 1:30 – 3:00 Y-chromosome Short Tandem Repeat (Y-STR) Interpretation Guidelines-SWGDAM
- 3:00 – 4:00 Setting up GMID for Y-STR Data
  - Importing Panels & BinSets (Yfiler and PowerPlex Y)
  - Analysis Settings, Tables & Plot Settings

### Wednesday

- 8:00 – 10:00 SPECIAL SESSION: GeneMapper™ ID for New Users
  - Required for new, novice users of GMID; Optional for all others.
- 10:00 – 10:45 Yfiler and PowerPlex Y Amplification Laboratory Exercises, Sarah and Karen, EW Laboratory
- 10:45 – 12:00 Y-STR Databases, Sarah Bowen, M.S.
- 12:00 – 1:00 Lunch (Attendee Dialogue and SOP Sharing)
- 1:00 – 3:00 Y-STR Statistics, Sarah Bowen, M.S.
  - Counting Method & Upper Bounds Confidence Interval
  - Combining autosomal genotype and Y haplotype results
  - Haplotype Mixture Calculations
- 3:00 – 3:30 Y-Chromosome and Paternity: Thomas Jefferson & Sally Hemmings – Video
- 3:30 – 4:00 3130 Run Set-up Laboratory Exercise, Sarah & Karen, EW Laboratory

### Thursday

- 8:00 - 10:00 GeneMapper™ ID Analysis of Yfiler and PowerPlex Y Haplotypes, Karen Howard, M.S.
  - Single Source Male Samples – 20% filter vs. Marker Specific Stutter Ratio filter
  - Father-Son pairs
  - Class Data
- 10:00 – 12:00 GeneMapper™ ID Analysis of Y Haplotypes - MIXTURES, Karen Howard, M.S.
- 12:00 – 1:00 Lunch (Attendee Dialogue and SOP Sharing)
- 1:00 – 2:00 GeneMapper™ ID Analysis of Y Haplotypes – NIST SRM 2395, Karen Howard, M.S.
- 2:00 – 2:30 Y-STR Testimony Exercise, Sarah Bowen and Karen Howard
- 2:30 – 4:00 Case Studies, Sarah Bowen and Karen Howard
  - Single Source Male – GMID analysis, Database statistics and Reporting
  - Father-Son Mutation/Non-Paternity – statistics and Reporting
  - Male:Male Mixture – GMID analysis, Database statistics and Reporting
  - Autosomal and Y results - Statistics and Reporting

### Friday

- 8:00 – 8:30 Strengthening Forensic Science in The United States: A Path Forward, Karen Howard, M.S.
- 8:30 – 8:45 Y-STR Reference & Training Information, Sarah Bowen and Karen Howard
- 8:45 – 9:00 Questions, Post-Test, Evaluations and Certificates