Course: BioNumerics Software PFGE Analysis Workshop for PulseNet Participants

Course Length: 2.5 days

Goals and Objectives:

- Provide training for PulseNet participants to become familiar with BioNumerics software (version 6.6.10) and the customized PulseNet tools (MasterScripts version 6.0) that will help in managing databases more effectively
- Familiarize PulseNet participants with the CDC PulseNet staff, methods of communication, and the PulseNet SharePoint site

Learning Objectives:

At the end of the course, students will be able to:

1. Create databases and install PulseNet MasterScripts for analysis of TIFFs associated with PFGE
2. Import, normalize and mark bands of raw TIFF images in BioNumerics, and link appropriate demographic information to each isolate
3. Authenticate using a SecurID key fob, connect to the national databases, and upload patterns and demographic information
4. Search local and national databases
5. Understand the basics behind comparisons and clustering techniques in BioNumerics
6. Perform cluster searches/comparisons with local and national database patterns
7. Create graphs, charts and tables using PulseNet data
8. Create PulseNet bundle files, communicate with PulseNet Central and other PulseNet participants, and participate on the PulseNet SharePoint site
9. Import and export data into and from BioNumerics
10. Learn how to manage local databases using various script tools, settings, information fields, and layouts
11. Perform advanced queries in the local and national databases
12. Download CDC pattern names, outbreak codes and band markings into a local database
13. Learn advanced tools and scripts to facilitate local and national cluster detection
14. Create reports using layouts, print options, charts, groups, colors, and dendrograms
15. Perform hands-on practice of real-life scenarios involving skills learned