

PulseNet International BioNumerics v7.6 Virtual Training Series

- Part I** Introduction to BioNumerics and the Data Analysis Workflow
- Part II** Analyzing Sequence Data in Organism Databases and Assessing Quality
- Part III** Using Tools to Translate ACTGs into Serotype, Virulence, and Antimicrobial Resistance Information
- Part IV** Managing Organism Databases by Utilizing Comparisons, Queries, and Charts
- Part V** wgMLST Interpretation and Surveillance

AUDIENCE

The intended audience for these webinar trainings are PulseNet participating laboratories using BioNumerics 7.6 software. These are basic level trainings geared towards persons who are not experienced or moderately experienced in the data analysis workflow using BioNumerics in the PulseNet program.

FREE REGISTRATION!

Register on the [APHL Training Portal](#), create a user name, log in, and enroll in the course by selecting it from the catalog, then enter coupon code **APHL2021** at checkout.

*This training series is sponsored by the Association of Public Health Laboratories (APHL). **There is No Cost to view these webinars.***

Part I | Introduction to BioNumerics and the Data Analysis Workflow

DESCRIPTION

Part I will present an overview of the database setup and analysis workflow for the BioNumerics v7.6 software.

OBJECTIVES

At the conclusion of this program, the participant will be able to:

- Create an SQLite database and enable access to a calculation engine
- Describe the workflow process for analysis of sequence data in BioNumerics databases

INVITED FACULTY

Steven Stroika, US Centers for Disease Control and Prevention

- Describe the process for identification of virulence genes using VirulenceFinder tool
- Describe the process for identification of antimicrobial resistance genes using ResistanceFinder tool.

INVITED FACULTY

Morgan Schroeder, US Centers for Disease Control and Prevention

Part II | Analyzing Sequence Data in Organism Databases and Assessing Quality

DESCRIPTION

Part II will present an overview of the process used to analyze sequences in the organism-specific databases and assess data quality after results are imported.

OBJECTIVES

At the conclusion of this program, the participant will be able to:

- Describe the process used to analyze sequence data in organism-specific databases
- Describe how to use the sequence quality after data are analyzed

INVITED FACULTY

Steven Stroika, US Centers for Disease Control and Prevention

Part IV | Using Tools to Translate ACTGs into Serotype, Virulence, and Antimicrobial Resistance Information

DESCRIPTION

Part IV will present an overview of the functionalities in the PulseNet organism-specific databases used for management of whole genome sequencing analysis. Attendees will be introduced to tools used for creating phylogenetic trees and charts for generating reports of WGS data to share with stakeholders.

OBJECTIVES

At the conclusion of this program, the participant will be able to:

- Explain the use and applications of the PulseNet organism databases
- Describe the process of generating comparisons for phylogenetic analyses
- Describe the process for generating charts for reporting WGS data

INVITED FACULTY

Morgan Schroeder, US Centers for Disease Control and Prevention

Part III | Using Tools to Translate ACTGs into Serotype, Virulence, and Antimicrobial Resistance Information

DESCRIPTION

Part III will present an overview of the tools used to predict serotype, virulence and antimicrobial resistance genes on sequence data in database.

OBJECTIVES

At the conclusion of this program, the participant will be able to:

- Describe the process for generating a serotype prediction using SerotypeFinder and SeqSero tools

Part V | wgMLST Interpretation and Surveillance

DESCRIPTION

Part V will present an overview of the tools in BioNumerics for performing wgMLST analyses and assessing relatedness of sequence data, including detecting clusters. Attendees will be introduced to the processes used for daily management of wgMLST data to conduct surveillance activities or answer various research questions.

OBJECTIVES

At the conclusion of this program, the participant will be able to:

- Describe how to perform cluster searches and create reports
- Discuss how to interpret and communicate wgMLST data and outbreak information to various stakeholders

INVITED FACULTY

Morgan Schroeder, US Centers for Disease Control and Prevention