

Next-Generation Sequencing with Focus on Cell & Gene Therapy Application

Instructor: Maurizio Morri, PhD

Format: Live Virtual | 6 Modules

Our six-lecture Next-Generation Sequencing course delivers foundational knowledge and advanced applications tailored to today's cell and gene therapy professionals.

You'll start by building fluency in core NGS concepts—spanning platform comparisons across Illumina, Ion Torrent, PacBio, and Oxford Nanopore—and sharpen your skills in data processing, quality control, and variant analysis using tools like FastQC and MultiQC.

Specialized Focus on Therapeutic Applications

- **What sets this course apart is its direct alignment with therapeutic development and regulatory workflows. You'll master critical techniques including:**
 - NGS-based viral vector characterization for AAV and lentivirus
 - Integration site analysis and purity assessment for regulatory submissions
 - Immune receptor repertoire sequencing and CAR T-cell product evaluation
 - Genetic stability tracking during cell expansion and manufacturing

Advanced Skills for Emerging Technologies

- **Designed to future-proof your skills, this training also dives into emerging technologies:**
 - Single-cell sequencing and spatial transcriptomics
 - Machine learning-driven NGS analytics
 - Clonal tracking and personalized QC pipeline development
 - Translational insights to support IND/BLA submissions