Beyond Traditional Screening: The Next Wave of High-Throughput Technologies

April 24, 2025   8am PDT | 11am EDT | 4pm BST | 5pm CEST

High-throughput screening (HTS) technologies are transforming drug discovery and biological research by enabling the rapid, parallel testing of thousands of compounds. This webinar will highlight the latest innovations in automation, miniaturization, artificial intelligence (AI)-driven analysis and emerging methodologies that are redefining the landscape of HTS. Industry experts will discuss key breakthroughs, best practices and future directions to maximize the impact of HTS in research and development.
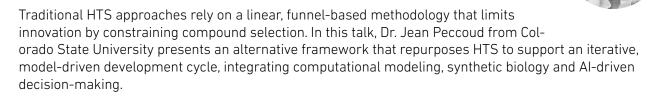
Attend this webinar to:

- Understand the role of HTS in drug discovery

- Explore advancements in automation, miniaturization and AI-driven analysis

- Learn best practices for assay design, data management and interpretation

- Discover emerging trends and future directions in HTS

TALK 1

From HT Screening to Rapid Product Prototyping

Presented by Jean Peccoud, PhD, Professor, Colorado State University

Traditional HTS approaches rely on a linear, funnel-based methodology that limits innovation by constraining compound selection. In this talk, Dr. Jean Peccoud from Colorado State University presents an alternative framework that repurposes HTS to support an iterative, model-driven development cycle, integrating computational modeling, synthetic biology and AI-driven decision-making.

Key takeaways:

•   Recognize the limitations of traditional HTS and its impact on candidate selection.
•   Understand the principles of the design-build-test-learn (DBTL) methodology as an alternative paradigm.
•   Learn how synthetic DNA technologies and in silico design tools enable rapid biologic drug and genetic medicine prototyping.
•   Explore the integration of computational modeling with HTS platforms to drive data-informed decision-making.

TALK 2

Enhancing High-Throughput Screening with StreamSelect and RapidFire

Presented by Kevin McCann, Senior Product Manager, Agilent Technologies

High-throughput laboratories depend on robust instrumentation to ensure productivity while managing thousands of samples per day. Agilent's RapidFire and StreamSelect platforms has been delivering reliable mass spectrometry results in these demanding environments for over a decade. In this webinar, Kevin McCann will showcase how RapidFire and StreamSelect enable fast, automated analysis, helping researchers improve efficiency and data quality.
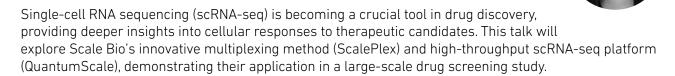
In his talk, he will:

•   Understand how high-throughput LC/MS technologies drive efficiency in screening applications.
•   Learn how automated workflows improve sample processing speed and reproducibility.
•   Gain insights into best practices for implementing high-throughput screening solutions in laboratory settings.

TALK 3

High-Throughput Screening in Drug Discovery with Single-Cell RNA Sequencing

Presented by Archana Bettadapur, Product Manager, Scale Biosciences

Single-cell RNA sequencing (scRNA-seq) is becoming a crucial tool in drug discovery, providing deeper insights into cellular responses to therapeutic candidates. This talk will explore Scale Bio's innovative multiplexing method (ScalePlex) and high-throughput scRNA-seq platform (QuantumScale), demonstrating their application in a large-scale drug screening study.

Key takeaways:

- Discover the advantages of single-cell RNA sequencing for drug discovery.
- Understand how ScalePlex multiplexing and QuantumScale platforms enhance throughput and data quality.
- Review an experimental case study on a high-throughput drug screen involving 40 FDA-approved drugs applied to human myeloid leukemia cells.data-informed decision-making.