

Harnessing Molecular Drivers of Comorbidity for Precision Drug Discovery

JANUARY 30, 2025

8AM PST | 11AM EST | 4PM GMT | 5PM CET

Join us for an insightful webinar exploring the forefront of drug discovery research. This session features two groundbreaking talks on harnessing artificial intelligence and advanced cell models to revolutionize drug discovery workflows. Gain valuable insights into cutting-edge methodologies and technologies that are shaping the future of precision medicine.

Attend this webinar to:

- Learn how AI-driven approaches can identify novel therapeutic targets and optimize drug discovery.
- Understand the role of advanced cell models in creating predictive in vitro solutions.
- Explore innovative tools and workflows supporting preclinical and clinical pharmaceutical development.

TALK 1

Harnessing Molecular Drivers of Comorbidity for Precision Drug Discovery

Presented by Jeffrey Skolnick, PhD, Regents' Professor and Director of the Center for the Study of Systems Biology, Georgia Institute of Technology



A critical factor in the successful development of drugs is identifying suitable targets that drive disease progression and developing therapies that effectively treat the disease while minimizing adverse effects.

In this session, Dr. Jeffrey Skolnick from the Georgia Institute of Technology will introduce POLYPHARM-AI, a suite of AI algorithms designed to identify common driver proteins shared across multiple comorbid diseases. He will also showcase its performance through benchmarking studies, applications in ovarian cancer cell lines and its capability to identify novel pain treatments.

In his talk, he will:

- Demonstrate how POLYPHARM-AI achieves ~80% accuracy in identifying efficacious drugs in over 165,000 drug-disease pairs.
- Share insights from benchmarking studies and applications in ovarian cancer and novel pain treatment.
- Discuss limitations of POLYPHARM-AI and opportunities for future developments.

TALK 2

Building Advanced Cell Models for Drug Discovery

Presented by Kevin Grady, Senior Market Development Manager at Lonza



Drug discovery scientists need a host of tools to develop and test new drugs and therapies, as they move from basic research to product release. In particular, scientists can use primary cells to build advanced 2D and 3D predictive models to better understand the pharmacokinetics and metabolism of new compounds.

In this session, Kevin Grady from Lonza will review how primary cells and optimized media systems can be the building blocks for developing the next generation of predictive in vitro cell model solutions.

In his talk, he will:

- Outline the importance of primary cells, media and reagents in pharmaceutical workflows.
- Provide best practice guidance for building predictive models.
- Showcase how these tools support preclinical and clinical drug discovery.