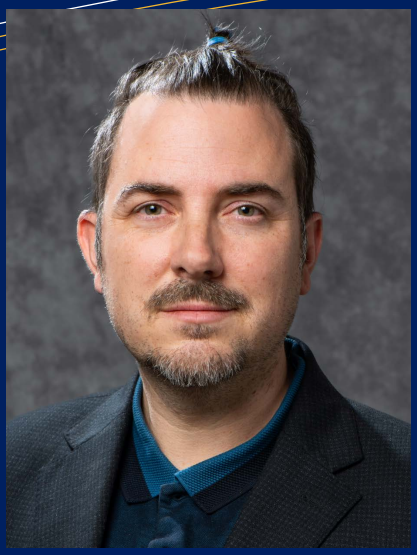
QUANTITATIVE AND SYSTEMS BIOLOGY COLLOQUIUM:

From New Lineages of Life to Novel Pathogen Detection

Frederik Schulz

DOE Joint Genome Institute



Date:

10/16/2025

Time:

10:30 AM - 11:45 AM

Location:

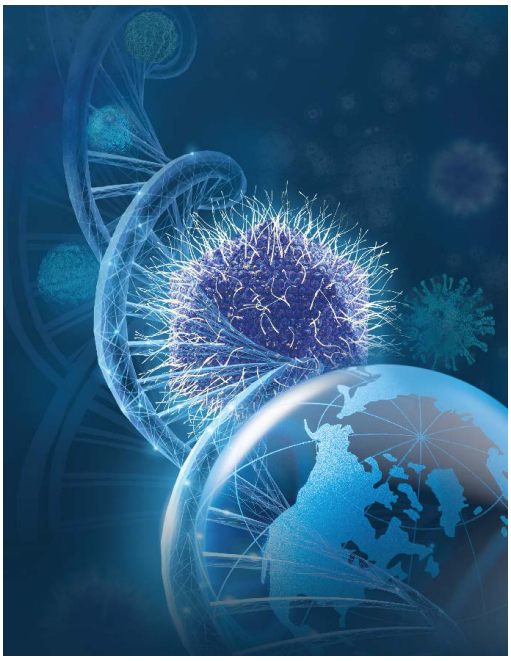
SSB 130

About the Speaker:

Dr. Frederik Schulz is staff scientist and principal investigator at the DOE Joint Genome Institute (JGI) / Lawrence Berkeley National Laboratory, the Co-founder and CEO of SampleX and a visiting scientist at the Laboratory for Research in Complex Systems (LRC). Dr. Schulz leads JGI's Strategic Initiative on Biosecurity, and the New Lineages of Life Group in the Microbial Program. He and his team are harnessing non targeted sequencing approaches and machine learning /AI to accelerate microbial discovery and enhance biothreat detection capabilities.

Abstract:

The New Lineages of Life (NeLLi) group at the DOE Joint Genome Institute operates at the intersection of foundational microbial discovery and applied biodefense. The vast, uncharacterized microbial diversity on Earth represents a potential reservoir for emerging threats, making pathogen-agnostic detection critical for national security. We apply advanced metagenomic and machine learning techniques to develop a framework for identifying known, emerging, and engineered threats without prior knowledge of the target.



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