



Session	Emerging Innovative Technologies: Novel Fermentation and Downstream Processing Innovations
Title	Ready-to-Use Starter Cultures for Scalable and Reliable Biomanufacturing
Company	Swan Neck Bio ApS
Speaker	Troels Prahl
Keywords feedstock (max 2)	Outsourcing seedtrain
Keywords technology (max 2)	Direct inoculation
Keywords End-Product (max 2)	Starter-culture& inoculum
Abstract:	
Modern biomanufacturing—especially in food and fermentation-based industries—is bottlenecked by the seed train: multiple propagation steps, contamination risk, inconsistent yields, and heavy capital investment. At Swan Neck Bio, we address this challenge with DIRINOC, our proprietary Direct Inoculum solution that transforms how companies seed their production fermenters. DIRINOC is a ready-to-use, concentrated, quality-certified starter culture derived from the customer’s own strain. After strain transfer and optimization, our ORIP program (Organism Robustness Induction Program) uses an AI-enabled metabolic pathway mapping to tailor propagation strategies. Lab trials optimize media, biomass concentration, and packaging. Finally, validation is performed in our FlexCell® production platform. The result: a storable, concentrated inoculum that can be directly introduced into commercial fermenters—eliminating the need for multi-step seed trains. Compared to traditional seed trains, DIRINOC reduces contamination risks, simplifies process flows, shortens time to production, and lowers cost and capital expenditure. It provides consistency, flexibility, and scalability across microbial types—yeast, bacteria, fungi, algae, and genetically engineered strains. We support quality certification, regulatory compliance (food, GMO, industry standards), and logistic readiness. We have three production sites in place (two in the USA and one in Europe), ready to deploy.	