



Session	Emerging Innovative Technologies: Novel Fermentation and DSP Innovations
Title	Let Biology Breathe: A Zero-CapEx Fix for Bioreactor Productivity
Company	FluxBio
Speaker	Marika Ziesack
TRL	TRL 4 - 7
Keywords feedstock (max 2)	Feedstock agnostic
Keywords technology (max 2)	Microporous particles
Keywords End-Product (max 2)	End-product agnostic
Abstract:	
Aerobic and gas-fed bioreactors are capped by gas transfer, not biology, wasting capacity in tanks already built. FluxBio's capacity enhancer, a microporous particle suspension exclusively licensed from Harvard, delivers up to 10x higher gas transfer rates as a zero-CapEx drop-in, unlocking a \$62B addressable market across pharma, food, and industrial biomanufacturing. Across bacteria, yeast, and mammalian cell validation, we have shown 2-4x biomass increase, 70% less airflow, and 45% lower stirring energy in existing tanks. Our technology was independently validated at a US National Laboratory, and a feasibility study is underway with a major food ingredients manufacturer. Our pipeline includes 30+ stakeholder interviews and 5+ signed NDAs across pharma, food, and industrial biotech, confirming gas transfer as the primary scale-up bottleneck. We are spun out of Harvard's Wyss Institute, where the founding team secured \$1.3M in non-dilutive funding including a DARPA FAARM contract. Led by a second-time founder (Harvard PhD, former biotech CTO), we are raising a \$1M pre-seed SAFE to complete pilot-scale validation and convert active feasibility studies into paid pilot contracts.	