



Session	Novel Technologies: Sensors - AI
Title	Beyond yield: Optimising DSP for scale, cost and sustainability with hybrid AI
Company	New Wave Biotech
Speaker	Nix Hall
TRL	TRL 4 - 7
Keywords feedstock (max 2)	N/A
Keywords technology (max 2)	Hybrid modelling
Keywords End-Product (max 2)	Proteins/peptides, Lipids
Abstract:	
Downstream processing accounts for up to 70% of biomanufacturing production costs, and the choices made there – which route to scale and which parameters to run – fix yield, cost and footprint for years. Yet most teams rely on a small number of expensive physical trials and manual models for process development, so surprises surface late at scale-up and routes are locked in before the alternatives are known. Bioprocess Foresight, New Wave Biotech’s DSP Decision Intelligence platform, optimises downstream processing for yield, cost and sustainability together. Its patent-pending hybrid AI learns your specific process, your equipment, materials and the dynamics generic models miss, and evaluates 100,000+ configurations per cycle so every experiment counts. Dedicated scale-up and scale-down models carry results between scales, and full-process TEA and ISO-aligned LCA put cost and carbon beside every decision. Because the models are grounded in physics, one calibration run is enough to start, results can be trusted and explained, and every experiment makes the next one smarter, across products too. With our unique hybrid technology, we've been able to predict pilot-scale centrifugation within 6.5% from a single calibration run in a project, and have helped a customer cut unit cost by 55% with 92% fewer experiments.	