



<b>Session 8</b>	<b>Microbial protein transition players</b>
Pitch Title	Bimodal Production for Enhanced Sustainability and Economics in Recombinant Protein Production
Company	TurtleTree
Speaker	Amanda Fischer, PhD
Keywords feedstock	feedstock-agnostic
Keywords technology	recombinant-protein
Keywords End-Product	bimodal-production
<b>Abstract:</b>	
<p>Precision fermentation is gaining prominence across industries due to its ability to produce unique and customizable products. However, with only 50% achievable product yield per tank volume, and high, unsustainable resource usage, industries are experiencing economic losses. Optimization projects to confront these issues require expensive R&amp;D efforts that span over years. To address these challenges, we have pioneered a patent pending bimodal technology that has demonstrated the ability to use a single microbe to produce double the amount of one product or two separate proteins in parallel—one intracellularly and the other secreted. Testing in 2L fed-batch fermentation has shown yield improvement of up to 200%, and a 40% reduction in costs and resource usage. Our overarching goal is to affirm this innovation as an effective way to reduce excess waste production, maximize profitable yield, and optimize manufacturing processes. We aim to prove this method's versatility by implementing it for the development of various commercially-relevant human nutrition-based recombinant proteins. Additionally, we aim to prove this innovation's effectiveness and cost efficiency at an industrial scale, through incorporating downstream processing practices into our testing. This method has great potential for creating more streamlined practices within the PF industry, paving the way for further innovations, intellectual property discoveries, and contributing to a more sustainable future.</p>	