



Session	Emerging Innovative Technologies: Novel Fermentation and DSP Innovations
Title	U-Loop®: A Gas Fermentation Platform for Protein and Beyond
Company	Unibio
Speaker	David Henstrom
TRL	
Keywords feedstock (max 2)	Methane
Keywords technology (max 2)	Gas fermentation
Keywords End-Product (max 2)	Single-cell protein
Abstract:	
Unibio has developed the U-Loop®, a proprietary vertical-loop bioreactor engineered for efficient, continuous gas fermentation at industrial scale. Its first commercial application is Uniprotein®, a single-cell protein produced from methane for aquaculture and animal nutrition. This methane-to-protein application established the industrial foundation for the U-Loop®, combining efficient gas-to-liquid mass transfer with high energy efficiency. Beyond protein, Unibio is now applying the U-Loop® technology to new gas feedstocks and biological production pathways through ongoing collaborations. These include carbon utilisation and the production of low-carbon chemicals and materials, with current applications including acetate production from CO₂ and H₂ and bio-butadiene from methane. This pitch will show how a technology established for industrial protein production is evolving into a broader reactor platform for gas fermentation applications across the bioeconomy.	