Session	**Emerging innovative technologies: novel fermentation and novel downstream processing innovations**
Title	From microbial intelligence to industrial fermentation: data-guided process design for bio-based molecules
Company	Abolis Biotechnologies
Speaker	Vanessa Rouaud
TRL	TRL 8-9
Keywords feedstock (max 2)	Sugar Oil
Keywords technology (max 2)	Strain engineering
Keywords End-Product (max 2)	Ingredients APIs

Abstract:

Industrial biotechnology can only scale when microbial performance, fermentation conditions and downstream requirements are considered together. Abolis combines microbial intelligence, strain engineering and bioprocess development to turn promising biological pathways into manufacturable bio-based ingredients.

At the heart of this approach is MINE (Microbial INtelligence Explorer), Abolis' platform connecting genomic and multi-omics data with experimental evidence. It helps teams identify relevant strains and metabolic levers, prioritize experimental conditions, and connect biological potential with industrial constraints. These insights guide strain and enzyme optimization, tailored and manufacturable media and fermentation development, process monitoring and scale-up preparation.

By moving beyond upscale and downscale optimization, Abolis links experimental design with robust, economically viable process development from early discovery towards industrial transfer. The approach supports specialty chemicals, cosmetics, nutrition and healthcare, aiming to improve manufacturing efficiency.

This pitch will show how data-guided experiments can accelerate the path from biological insight to industrial production.