



Session	Start-ups/SMEs looking for Finance: Pre-seed/Angel/Seed
Title	Building the multi-modal foundation model for industrial biomanufacturing
Company	Twig Bio
Speaker	Russ Tucker
TRL	TRL 4 - 7
Keywords feedstock (max 2)	Carbon
Keywords technology (max 2)	AI, synbio
Keywords End-Product (max 2)	Chemicals/ingredients
Abstract:	
Twig is an AI-driven bioengineering company replacing extractive petrochemicals and intensive agriculture by rapidly delivering biofermented ingredients. By tightly integrating advanced AI design with an automated lab, Twig accelerates the development of scalable, high-yielding bioproducts in months rather than years. At the core of Twig's dry:lab are two primary intelligence systems: 1) Hazel: A multi-agent AI research framework that screens potential target molecules by evaluating market dynamics, IP landscapes, scientific literature, and biochemical feasibility to target the most commercially viable opportunities (available at https://www.askhazel.bio); and 2. Canopy: A family of multi-modal biological foundation models that converts biological data into actionable design decisions, modelling systems from DNA sequence to bioprocess parameters to optimize microbial strains at scale. This computational output powers Twig's automated wet:lab, which rapidly builds and tests microbial designs at high throughput. The wet:lab generates standardized, low-cost, AI-ready data that feeds directly back into Canopy. This creates a closed-loop, continuous feedback cycle where physical experiments dynamically train and refine the dry:lab models, drastically reducing time-to-market for bio-ingredients. Twig partners with chemicals and consumer goods companies, and their first ingredients are due in market in 2027.	