



Session	Start-ups/SMEs looking for Finance: Pre-seed/Angel/Seed
Title	Real-Time Chemical Intelligence from Living Bioelectronic Sensors
Company	Kāhu SiliconBio
Speaker	James Flewellen
TRL	TRL 4 - 7
Keywords feedstock (max 2)	Engineered bacteria
Keywords technology (max 2)	Bioelectronic interfaces
Keywords End-Product (max 2)	Real-time sensors
Abstract:	
Biomanufacturers still monitor processes blind between samples. Metabolites, precursors, intermediates, end-products and waste products are typically measured by offline lab assays, thus drift and failed batches are found hours too late. Existing in-line probes are fast but limited to a narrow set of targets. Kāhu SiliconBio closes this gap with living bioelectronic sensors. Our BioChip couples bacteria, which are bioengineered to respond precisely to chosen chemical targets, to a custom silicon chip. The cells' biophysical response is converted to an electrical signal in real time (no optics required), yielding rapid, continuous, quantitative readout of target chemical concentration in aqueous solutions, from either discrete samples or flowing liquid. Because the sensor is a microbe, we reengineer it to new chemical targets through cost-efficient synthetic biology techniques, instead of expensive hardware redesign. A growing catalogue of sensing strains lets us tailor one chip to a panel of analytes bespoke to each customer's needs. The platform also extends to diagnostics, effluent and environmental monitoring. We are at TRL 5 with a patent-pending core bioelectronics technology, building commercial prototypes for a beachhead biomedical application, with downstream expansion into biomanufacturing process monitoring and environmental. We open a seed round in early 2027 and seek investors and pilot partners.	