



**Jamie Davies**

**Title:**

Opportunities for optogenetics in synthetic morphogenesis

**Abstract:**

Synthetic morphogenesis is the application of the techniques of synthetic biology to the production of multicellular tissues or, potentially, 'organisms'. In its 'hard core' form, the morphology emerges from the activities of the cells themselves rather than from bioprinted scaffolds or other external constraints. Nevertheless, the inclusion of optogenetic controls can offer many advantages. They could allow testing to be performed before systems are fully assembled, and they could allow quantitative parameters (eg sensitivity to a biological signal) to be passed to a system to alter its performance globally. Optogenetics can also be used more locally, to pass patterns, temporal or spatial, to systems that cannot generate them themselves. This talk will highlight examples and opportunities.

**Biography:**

\*\*\*Coming Soon\*\*\*