**ClubBioMed PhD**

This README is a no-nonsense explanation of the core of a practice based PhD by artist Ross Dalziel

**Look at the convergence of research in bacterial communication and behaviour with digital and technical culture from the perspective of a participatory art practice.**

**Convergence**

\* Lab-on-a-chip developments

\* BioEngineering, Biological computation and Bioinformatics

\* Biological behaviour as models for technological engineering

\* [DIYbio](https://en.wikipedia.org/wiki/Do-it-yourself_biology): Makers and kits meet microbes: lab-on-a-chip-for-makers: where [DIY microfluidics](https://www.cytofluidix.com/low-tech-microfluidics/)) meets [AIY](https://aiyprojects.withgoogle.com/)

**Perspective of the art practice**

\* I don’t make spectacles of visual material or interactive art that offers materials for manipulation.

\* I do make messy participatory situations where people and knowledge can get entangled and foster forms of agency, literacy and ultimately resilience.

\* I make [Critical Kits](http://kits.re-dock.org/) and materials that support and embody these situations

\* I see the sciences and the technical not as subjects for artistic spectacle, speculation or critique but a technical culture for artists to critically participate in.

\* I want to widen the participation in technical and scientific literacy

\* I’m an embedded participant in maker and technical culture based at makerspace and co-working space DoESLiverpool

\* I want to contribute to the development of combined arts and biological practice at Lancaster University

**What Do I Want To Find Out?**

\* What are the opportunities for agency, literacy and resilience in this space?

\* What are the opportunities to entangle scientific literacy with more diverse knowledge practices, practitioners and widen participation?

\* What Critical Kits can be made to embody and materialise these opportunities?

\* How do kits further embodied interaction?

\* How can kits contribute to the relation between STS research and artistic practice?

\* What is the nature of challenge in terms of literacy and agency in kit responses to bio-engineering?

\* What approaches informed by these questions can be made in the DIYBio space?

\* What are the scaling opportunities for Critical Kit and DIYbio practices along the lines of RCA's [Future Makespaces in Redistributed Manufacturing research](http://futuremakespaces.rca.ac.uk/) and MCQN ltd [IoT Maker scaling research](https://indie.mcqn.com/))

**How Am I Going To Do It?**

\* It's practice based, building on work developing kits and messy encounters with STEM, IoT, Maker and Network Culture with FACT, [Re-Dock](http://re-dock.org/), [Critical Kits](http://kits.re-dock.org/) and [Domestic Science](http://domesticscience.org.uk)

\* Make kits that embody and support artistic encounters in a range of social spaces and contexts from laboratory to local library, charity shop to indoor market, conference to country show, living room to allotment, makerspace to National trust property.

\* Critically reflect on these encounters, feed into kit development and iterate

\* Use fine grained kit documentation as part of the writing up process.

\* Kits embody the critical reflections, encounters and the written up research, ready for the field.

\* I will interact with a research group of biomedical researchers working on aspects of communication & chemotaxis/movement in biological systems using the microbial and insect species already being studied at Lancaster. This informal group **ClubBioMed** co-founded with Dr Rod Dillon embeds maker culture and participative art practices with technology within the Biomedical & Life Sciences at Lancaster University.

\* Connect these groups with the wider arts, maker and tech community of the NorthWest

\* [DoESLiverpool](http://doesliverpool.com/))

\* [Domestic Science](http://domesticscience.org.uk/))

\* Network of libraries and community spaces in the North West: Merseyside, Barrow and Morecambe

\* FACTlab

\* OSHUG open hardware community

\* UK Maker Belt Association

\* Guild of Makers

\* Liverpool Make Fest and other maker event networks e.g. Maker Assembly

\* Fesival of Maintenance 2018

\* Stimulate crosstalk with novel research groups and informal clubs to widen the participation in technical and scientific literacy within the North West of the UK.

\* Use this crosstalk to foster critical approaches to art and science collaborative practice.