# Literature

## Background

### Microbial fuel cells.

* Textbook full of information on the subject
* Useful for providing context to the subject as a whole
* Future ideas
* Written by someone with plenty of real world experience
* Gave definitions and explanations for the commonly found acronyms

### Microbial Electrochemical and Fuel Cells 2016

* Need to skim over this one
* Will take awhile
* Could have a look at a journalistic review or something as well

## Review Papers

### Developments in microbial fuel cell modeling

* “Interest has significantly increased in recent decades”
* MFC modelling tends to be neglected
* Introduces the comprehensive type of models
* Anode based
* Cathode based
* Mentioned parameters that are important:
  + Biofilm thickness
  + Fuel flow rate and concentration
  + Temperature (mentions experimental ranging from 15-40 degrees C)

### A Review on solid oxide fuel cell models

* No useful information whatsoever
* I think I should exclude this from my literature review

### Models for Microbial Fuel Cells: A critical review

* Biofilm thickness matters
* Different models make different assumptions (no shit)
* Doesn’t talk about flow rate at all
* INDICATION: Models don’t focus on temperature or flow rate
* Therefore my title has a USP

## Modelling Papers

### A 1D mathematical model for a microbial fuel cell

* BACKGROUND
* Model correctly predicted how substrate concentration adn temperature affect biofilm thickness and cell performance
* Modelled temp ranges of 20,30 and 40 degrees
* Still got USP for lower temperatures

### A two-population bio-electrochemical model of a microbial fuel cell

* “Energy from organic waste cannot be recovered using traditional methods”
* This is because it has a complex composition and is usually very dilute
* Demonstrates influence of organic load and external resistance on the MFC power output and long term performance
* Validated with experimental results

### Modelling and simulation of two-chamber microbial fuel cell

### A generalized whole-cell model for wastewater-fed microbial fuel cells

### Electricity generation and modeling of microbial fuel cell from continuous beer brewery wastewater

## Experimental Work

### Investigation of key parameters influence on performance of direct ethanol fuel cell

* Not strictly about MFCs
* Was included in research to provide insight on fuel cells as a whole
* This includes the key parameters that affect them
* Useful to compare to MFCs
* States that higher flow-rates lead to increased performance
* States that higher temperatures increased voltage for a given current density

### Power generation from wastewater using single chamber microbial fuel cells (MFCs) with platinum-free cathodes and pre-colonized anodes

### Continuous electricity production from artificial wastewater using a mediator-less microbial fuel cell