

### **Infrastructure/Equipment**

The lab is equipped with general lab equipment ranging from water baths, centrifuges, milliQ water system, pH meters and incubators. Along with these general pieces of equipment is more specialized equipment. Refer to the links below for more information on the equipment available in the Food Microbiology Lab.

### **Forma Scientific Anaerobic System Model 1025**



This is an anaerobic system allowing the user to safely inoculate, incubate and examine organisms. The interchange lock permits a fast and simple transfer from aerobic to anaerobic conditions. There is a built-in incubator to easily grow anaerobic cultures.

### Fluorescence microscope



This microscope is equipped with a black and white camera to take pictures of fluorescence and phase contrast. Versatile software allows for extensive analysis of microbial images.

<http://www.zeiss.com/axio-imager>

### Thermo Electron Varioskan Flash



This is a specialized plate reader that can be used to measure fluorescence intensity, time-resolved fluorescence, absorbance and luminescence. It is capable of reading plates that have as few as 6 wells, up to 1536 wells. Temperature control and shaking functions are some noted features. Software used to run the instrument provides data processing and reporting functions.

<http://www.thermo-reading-room.com/reference/multimode/varioskan.htm>

### Asymmetric Flow Field Flow Fractionation (AF4)



Asymmetric Flow-Field Flow Fractionation (AF4) separates particles based on that in a long-thin channel a laminar flow has a parabolic flow profile and that particles/polymers, driven by a force perpendicular to this flow, will arrange in different mean layer thicknesses, so that they are transported with different velocities through the channel.

(<http://www.postnova.com/PDFDocuments/productinfos/AF2000AT.pdf>)

### BioRad Gene Pulser



The gene pulser is an electroporation system used for transforming microbial or eukaryotic cells.

(<http://www.bio-rad.com/webroot/web/pdf/lsr/literature/M1652105C.pdf>)

### Mini Beadbeater-8



This instrument disrupts microbial cells by agitating cells in the presence of small ceramic beads and buffer in as little as a few minutes and 0.1 ml of buffer. It is capable of processing up to 8 samples at one time. This system does not create foam or aerosols making it ideal for work in a microbial lab. ([http://www.biospec.com/product/31/mini\\_beadbeater/](http://www.biospec.com/product/31/mini_beadbeater/))

### Microfluidizer



The microfluidizer is another instrument to disrupt cells. Along with this function it is ideal for producing emulsions, dispersions or liposomes. It is capable of producing up to 23000 psi. An advantage of this system is that sample size can be as little as 14 ml with as much as 12 ml recovered after processing. ([http://www.microfluidicscorp.com/index.php?option=com\\_content&view=article&id=17&Itemid=71](http://www.microfluidicscorp.com/index.php?option=com_content&view=article&id=17&Itemid=71))

### Lab conco Freeze Dryer System (Freezone 4.5)



This Freeze Dry System is a compact laboratory lyophilizer with a capacity for light to moderate sample loads.

### Buchi Rotovapor R-205



The rotary evaporator is an efficient, fast and gentle way to separate liquids. The rotating flask generates an effective heat transfer for fast evaporation preventing a local overheating whilst leading to a smooth mixing of the content.

[http://www.buchi.com/rotary-evaporator\\_rotavapor.4695.0.html](http://www.buchi.com/rotary-evaporator_rotavapor.4695.0.html)

## DCode System for DGGE



<http://www.biorad.com/prd/en/CA/adirect/biorad?cmd=catProductDetail&vertical=LSR&country=CA&lang=en&productID=170-9080>

### List of Equipment in the lab

Microcentrifuges

Centrifuges

Ultracentrifuges