

# Flow Cytometry

The Flow Cytometry Facility at BCI provides a state of the art facility to support the important research being carried out at the Institute.

Flow Cytometry is a versatile technique enabling high throughput analysis and cell separation using fluorescent proteins, dyes, and labeled probes. Applications include:

- cellular phenotyping
- functional assays
- cell cycle analysis
- intracellular proteins e.g. cytokines and transcription factors
- RNA quantification and more.



As well as several conventional flow cytometry analysers, the facility also houses an **ImageStream X Mk II** imaging cytometer and **CyTOF2** mass cytometer. See over for more details.

**Internal Users** can find joining instructions, pricing and protocols on the BCI Intranet. **External Users** are also welcome. Please contact the Facility Manager.

## Contact Details

Facility Manager: Becki Pike E-Mail: [r.pike@qmul.ac.uk](mailto:r.pike@qmul.ac.uk)

Facility Staff Shared E-mail: [flowcytometry@qmul.ac.uk](mailto:flowcytometry@qmul.ac.uk)

## Cell Sorting

We have two BD Aria Cell Sorters with the ability to measure up to 14 fluorescent parameters. Both have capacity for up to 4-way cell sorting, as well as single cell sorting into 96- and 384-well plates. Cell sorting is run as a service for researchers by Core Staff. Please contact them directly using the contact details above.

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## Analysers

The facility contains three BD LSRFortessa instruments (up to 16 fluorescent parameters) and a BD FACSCalibur (4 fluorescent parameters). All are available for independent use, 24 hours a day, after relevant training has been completed.



## ImageStream X Mk II - Imaging Cytometer

As well as conventional flow cytometry data, the Imagestream provides brightfield and fluorescence microscopy images of each cell. This is a 3 laser instrument for measuring up to 10 different fluorescent parameters, and is ideal for investigating co-localisation, internalisation, immunological synapse, mitosis, small particle analysis and much more.

## CyTOF2 – Mass Cytometer

CyTOF2 provides next generation single cell analysis, with the ability to investigate up to 50 parameters at once. Cells are labeled with heavy metal probes in the place of fluorochromes, enabling you to investigate many more parameters per single sample tube than flow cytometry. This makes it the perfect tool for gaining a large amount of information where sampling material is limited.

## Analysis

FlowJo, DIVA 7.0 and CellQuest Pro 5.11 license dongles and computers are available for off line data analysis. Core staff can also provide training and assistance with analysis.