

# VCU Research spotlights...

Flow Cytometry Shared Resource Core Facility

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VIRGINIA COMMONWEALTH UNIVERSITY

The Flow Cytometry Shared Resource Core provides a wide range of services related to cell sorting and analysis. These services include everything from routine fluorescence analysis to interactive custom design of innovative analysis and sorting protocols that address the specific needs of individual investigators. The resource manager closely follows the analyses performed by the core facility, ensuring quality control and advising facility users on approaches to experimental design and data analysis. This shared resource maintains a stable base of instrumentation, expertise and trained personnel, and currently provides services and training for multiple users in 59 research groups from 21 departments at VCU. It has had a major impact on cancer research at VCU Massey Cancer Center for over 30 years.

In addition to our traditional expertise in cell sorting and analysis, the Flow Cytometry Core is pleased to now offer support for protein interaction studies utilizing our BiaCore T100 Surface Plasmon Resonance (SPR) instrument, as well as microplate luminiscence capability with our Perkin Elmer TopCount system.

## Flow Cytometry Training Classes

Our resource manager conducts training sessions in flow cytometry in order to enable facility users to perform their own analyses and to schedule instrument time using our online system. A solid understanding of the instruments leads to good experimental design and consistent data. We are dedicated to assisting investigators in attaining their desired level of expertise. If we are unfamiliar with your application, we'll do our best to learn everything we can about its set-up and optimization.

## Instrumentation

The Flow Cytometry Core features a comprehensive suite of instrumentation to facilitate research needs. These include:

- BiaCore T100 Surface Plasmon Resonance
- FC-500
- Aria – BD FACSAria II High-Speed Cell Sorter
- TopCount
- XL- Beckman Coulter Epics XL-MCL
- Canto – BD FACSCanto II Analyzer
- BSC Aria – BD FACSAria II High-Speed Cell Sorter

## Instrument Scheduling:

- The Canto, FC500, XL and BiaCore resources are available 24/7, except during weekly maintenance or repair periods. Investigators must attend a basic training session in order to obtain log-in credentials to the room and book online through the CORES scheduling system.
- Use of the Arias sorters is coordinated by Julie Farnsworth, who is available weekdays from 9am-5pm. Please contact Julie at 828-9586 to arrange FACS time.

## Contact Us!



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## Flow Cytometry Provides:

- Operator-assisted acquisition and analysis
- Operator-unassisted analysis and acquisition (for authorized users)
- Off-line data analysis
- Sorting of viable cells under sterile conditions
- Fluorescence activated cell sorting
- Analysis of cells ranging in size from bacteria to muscle cells
- Dual-angle light scatter analysis – capabilities extend to simultaneous analysis of eight or more different populations
- DNA and cell cycle analysis
- Following of apoptosis using a variety of dyes
- BD Cytometric Bead Array
- Receptor binding and receptor affinity, which can be determined by varying ligand concentration
- Viable mitochondrial staining
- Viability/cytotoxicity
- Real-time analysis, up to 30 minutes
- Calcium flux analysis
- FlowJo software for offline analysis
- FCSExpress for remote and offline analysis

For more information, please visit [www.massey.vcu.edu/flow-cytometry-core](http://www.massey.vcu.edu/flow-cytometry-core)