



VCU

Office of Research and Innovation **spotlights...**

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Flow Cytometry Shared Resource Core Facility

The Flow Cytometry Shared Resource Core Facility is celebrating its 40th year in 2016 providing 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 and is located in Molecular Medicine Research Building 4-001.

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 Reichert Dual Channel Surface Plasmon Resonance (SPR) instrument.

Visit our Website at massey.vcu.edu/research/cores/flow-cytometry

FLOW CYTOMETRY TRAINING CLASSES

We offer 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:

- BD LSRFortessa-X20 analyzer
- BD FACSCanto II analyzer
- Amnis ImageStreamX-MarkII
- BD FACS Aria II High-Speed Cell Sorter
- BD FACS Aria II High-Speed Cell Sorter located in biosafety cabinet
- Reichert 7500DC Dual Channel Surface Plasmon Resonance system

INSTRUMENT SCHEDULING

The Fortessa, Canto, and Reichert SPR 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 Aria sorters is coordinated by Julie Farnsworth and Qingzhao Zhang, and they are available weekdays from 9am-5pm. Please call 828-9586 to arrange FACS time.

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
- Apoptosis assay
- 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
- Autophagy studies



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