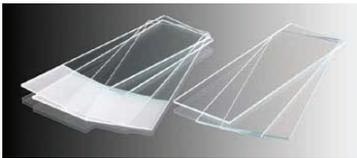


IU Bloomington Flow Cytometry

What's happening at the FCCF?

As a researcher, especially one who may have limited knowledge or experience utilizing flow cytometry, you may ask, *How can the flow cytometry core facility help me? What can flow cytometry do that fluorescence microscopy or other research techniques cannot?* Flow cytometry is a high throughput technique, analyzing single cells, organisms, and other particles by light scatter and fluorescence characteristics. The facility analyzer, the FACSCalibur, can analyze events at a rate of up to 1,000 events per second with up to four-color analysis. The facility's high throughput sorter (FACSaria II) can analyze cells and particles up to a rate of 70,000 cells/second and sort at a rate of up to approximately 10,000 cells/second, dependent upon cell type, concentration and sorting mode. Not only can the instrumentation analyze samples, but can sort cells for recovery and farther analysis on- and into the following collection devices:

- microscope slides



- multi-well plates from 6 to 96-wells



- 5 and 15ml tubes



images: vwr.com

What cells, organisms or particles can the facility work with? To date, we have worked and are currently in the process of working with the following organisms and cells: bacteria – *E. coli*, *Toxoplasma*, *Caulobacter*, *Bacillus subtilis*, *Synechococcus* (aquatic cyanobacteria); insect – *Drosophila* tissue culture cells and embryos; plant cells and nuclei –

(continued on pg 2)

Facility Open House and BSL2 training

BSL2 TRAINING

(flow cytometry-based)

Wednesday Jan 21, 2009

1-5pm

Jordan Hall 029

FLOW CYTOMETRY

OPEN HOUSE

Friday, Jan 23, 2009

1-5pm

Jordan Hall 029

NO FOOD OR DRINK
INSIDE THE FACILITY

The flow facility will be kicking off the New Year by hosting an Open House Friday January 23, 1-5pm. We will demonstrate the capabilities of each instrument. Everyone is welcome to drop by, and we especially encourage those new to flow cytometry to attend. Also, for anyone who has wondered if the cell type they are working with can be analyzed and/or sorted using flow, we will be offering free testing of cells during the open house. Cells should be a BSL2 level or lower cell type and approximately 0.2-40um (Aria II and Calibur) or 50-350um (Select-sorter) in diameter.

Anyone having their cells run on an instrument during the Open House and anyone who would like to utilize the facility in general is required to go through BSL2 training. We will be offering BSL2 training Wednesday January 21st, from 1-5pm.

Please contact the facility at chassel@indiana.edu to set up a time for BSL2 training and/or to have your cells run on the facility instrumentation .

- Demos and BSL2 trainings will be held in half-hour increments.

What's happening... (cont)

Arabidopsis, *Helianthus*; mammalian – mouse spleen and thymus, primary and tissue culture human ovarian cancer cells, breast cancer tissue culture cells, HeLa and CHO cells; other – *P. antipodarum* (snail). If your cells, organisms or particles are between approximately 0.2-50um, they can be analyzed with the FACS Aria II or FACSCalibur systems, and can be recovered with our FACS Aria II system for use in further assays or analysis. If you have cells or organisms larger in size, it may be possible to analyze and sort these on our COPAS Select system. This system is designed to analyze and sort cells, organisms, and particles from approximately 50-350um in diameter, making it ideal for sorting *Drosophila* embryos, *C. elegans*, along with small plant seeds or spores. For anyone interested in accurate cell quantification, the Z2 Coulter counter is available. Cells approximately 2-50um can be quantified using this instrument, which works like an electronic haemocytometer, but unlike a haemocytometer gives both concentration and size distribution of a cell population.

The FCCF will work with you on experimental design, analyzer training, cell sorting, as well as data analysis. For information about the facility, rates, policies, and more, please see our website at www.facs.bio.indiana.edu or contact the facility at chassel@indiana.edu.

Upcoming events:

This semester the flow facility will be hosting a monthly flow cytometry roundtable. The flow cytometry roundtable will meet the following Thursdays from 10:15-11:15am, in the Lieber room (JH123)

January 29 - February 26 - March 26 - April 30

We are pleased to announce that our first presenter (Jan 29) will be Yannick Jacob. Yannick is a member of the Michaels lab, and will be presenting to us on his work with *Arabidopsis*.

The flow cytometry roundtable is intended to be a forum not only for presenting research utilizing flow cytometry but also for discussion of flow cytometry techniques along with questions and concerns that those utilizing or interested in utilizing flow cytometry may have. We hope to see you there!

Oversight Committee

Roger Innes, Ph.D. (Biology)
 Kris Klueg, Ph.D. (CGB)
 Melanie Marketon, Ph.D. (Biology)
 Thom Kaufman, Ph.D. (Biology)
 Robert "Tank" Eisman, Ph.D (Biology)
 Rich Hardy, Ph.D. (Biology)
 Ken Nephew, Ph.D (Med Sci)
 Curt Balch, Ph.D. (Med Sci)
 Christiane Hassel, B.S. (Biology)
 Kah Tan-Allen, Ph.D. (Biology)

Contact Information

For more information about the facility contact:
 Roger Innes - innes@indiana.edu
 Kris Klueg - kklueg@cgb.indiana.edu
 Christiane Hassel (manager/operator) - chassel@indiana.edu

Facility Hours

Monday - Friday, 9am-5pm: Closed on major holidays; other closings will be announced through the flow cytometry listserv; special hours available upon request and operator availability
 Please see the facility calendar for up-to-date appointment availability
 - <http://facs.bio.indiana.edu/calendar.html>

