

**2007 CYTOMETRY DEVELOPMENT WORKSHOP:
NOVEMBER 6 -9
SESSION TOPICS AND MODERATORS**

**SESSION 1 – CYTOMETRY REAGENTS – Nancy Perlmutter
(Tuesday afternoon 4:30 - 6:00)**

Tutorial – Mike Olszowy – Novel, newer reagents from MP/Invitrogen for cell cycle analysis, proliferation viability, cell counting and phagocytosis
Bill Godfrey – Qdot nanocrystal antibody conjugates
Robert Leif – New luminescent beads for cytometry
Bill Godfrey – Click-iT technology as an alternative to BrdU labeling
Robert Leif – Fluorescence Resonance Energy Transfer Enhanced Luminescence (FRETTEL) of Quantum Dyes

**SESSION 2 – FLOW CYTOMETRY HARDWARE I – Bill Telford
(Tuesday evening 7:30 - 9:00)**

Bob Hoffman – LEDs for flow cytometry: an update
Tutorial – Husain Imam – Broad as a lamp, bright as a laser: Supercontinuum Light sources for biomedical applications
Tutorial – Bill Telford – Novel laser and non-laser light sources for cytometry
Bill Hyun – PBC high power diode lasers
Tutorial – Stephen Perfetto – Development tools for polychromatic flow cytometry

**SESSION 3 – FLOW CYTOMETRY HARDWARE II – Bob Hoffman
(Wednesday morning 8:30 – 10:00)**

Tutorial – Giamcomo Vacca – A novel optical approach to increasing measurement throughput on flow cytometers
Tutorial – Yan Ming – Cytometer Instrumentation setup and characterization methods
David Parks – Data evaluation for instrument and reagent optimization
Marty Bigos – Qdot measurements with different excitations
Martin Buscher – Quality and robustness aspects of digital signal processing in flow cytometry
Eric Chase – Measurement of Q and B with violet excitation
Eric Chase – Discrepancies between assigned MEFL values of particles

**SESSION 4 – ALTERNATIVE CYTOMETRY TECHNOLOGIES – Howard Shapiro
(Wednesday morning 10:30 – 12:00)**

Masataka Shinoda – New cytometry using micro-fluidic chip
Jessica Godin – The use of a 2-D fluid-filled optics in polymer-based lab-on-a-chip devices
Tutorial – Ken Babcock – Microchannel Resonators: a mass-based approach to cytometry
Paul Johnson – Fountain Flow cytometry of microorganisms in complex matrices (milk & blood)
Paul Johnson – Cytometry of ultra-large multi-cellular organisms

SESSION 5 – LOWER COST CYTOMETRY – Howard Shapiro

(Wednesday afternoon 4:30 – 6:00)

Bob Hoffman – Simple fluidics for flow cytometry
Mark Naivar – Tradeoffs in low cost digital acquisition systems for flow cytometry
Bob Hoffman – Low cost photodiode detectors for flow cytometry CD4 testing
Robert Habbersett – Evaluation of lower-cost components for flow cytometry
J. Paul Robinson – Low cost cytometry for disadvantaged countries
Howard Shapiro – Minimalist Cytometry
Nancy Perlmutter – New data on minimalist cytometry

SESSION 6 – FLOW CYTOMETRY SOFTWARE – Jim Wood

(Wednesday evening 7:30 - 9:00)

Wayne Lui – A LabVIEW-based interactive simulation platform for hematology analyzers and flow cytometers
Stephen Perfetto – Validation of flow cytometry data
Maciej Simm – Update on user interface advancements in flow analysis
Jim Wood – Digitizing resolution in flow cytometry data
Jim Wood – Display scaling of flow cytometry data
Robert Leif – The Cytometry Standards Continuum*
John Quinn – MIflowCyt: Minimal Information for a Flow Cytometric Experiment – what information should be incorporated into an FCS file*
John Quinn – FCS 4.0 an introduction*
Wayne Moore – Data standards task force*

*Extended discussions on the FCS file format to be held during breaks

SESSION 7 – FLOW SPECTROSCOPY – John Nolan

(Thursday morning 8:30 – 10:00)

John Nolan - Intro

Hardware

Paul Robinson - Spectral Cytometry (Optics)
Dakota Watson – Raman Flow Cytometry

Applications

Greg Goddard - High Resolution Spectra in Flow: Analysis of the Benefits and Shortcomings
John Nolan – Multiplexed Analysis using Raman Spectral Flow Cytometry

Software and Informatics

Paul Robinson - Spectral Cytometry (Software)
Adam Treister – Flow Spectroscopy

SESSION 8 – IMAGING – Jeff Price

(Thursday morning 10:30 - 12:00)

David Charlot – HTS Image Cytometry

Behrad Azimi – Caveats of high content drug screening

Prashant Pabhat – High sensitivity 3D imaging of live cells

Damir Sudar – Experience with high-speed live-cell capable optical sectioning systems

Miguel Bravo-Zanogue – Instrumentation for microscopy autofocus and multi-focal plane detection

Damir Sudar – Multiscale bioimaging – integrating multi-modal microscopies over spatial and temporal resolution

SESSION 9 – IMAGING – APPLICATIONS AND SOFTWARE – Jeff Price

(Thursday afternoon 4:30 - 6:00)

Ramses Agustin – Biomarker heterogeneity of breast cancer cells quantified by flow and image cytometry

Cris Luengo – Imaging and image analysis of fruit fly embryos

Bill Ortyn – Data storage/handling of high throughput FISH analysis with extended depth of field statistical considerations associated with signal co-localization within cells using correlation of 2D images

Elliot Botvinick – Laser tweezers in high throughput cytometry; viewing stress as a dose

SESSION 10 – FLOW CYTOMETRY SOFTWARE – DATA ANALYSIS – Dave Novo

(Thursday evening 7:30 - 9:00)

Tutorial - Janet Siebert – Analyzing data from complex flow cytometry experiments: Innovative techniques from recent publications

Janet Siebert – Data analysis techniques of small multiples and sparklines to complex flow cytometry experiments

Dave Novo – Multithreaded approaches towards flow cytometry data processing

Adam Treister – Cluster analysis in flow cytometry

SESSION 11 – FLOW CYTOMETRY – Nancy Perlmutter

(Friday morning 8:30 – 10:00)

John Nolan - Nanoparticle flow cytometry

Doug Redelman - Estimating intracellular perforin in human NK cells by fluorescence intensity and its relationship to NK activity

Steven Graves – Optical Scatter artifacts limit the resolution of free vs. bound fluorescence measurements for low affinity interactions

Tutorial – Scott Tanner – Massively Multi-parametric Flow Cytometry with Mass Spectrometer Detection

Scott Tanner – Mass Spectrometer Detector for flow cytometer; How is flow cytometry linked to the mass spectrometer, or should it be?

Randy Smith – Modeling and Animation in Cytometry Education

SESSION 12 – Jeff Price & Howard Shapiro

(Friday morning 10:30 - 12:00)

Concluding remarks and small group breakout sessions if time permits.