

5th CYTOMETRY & MICROSCOPY SYMPOSIUM

5^e SYMPOSIUM DE CYTOMÉTRIE ET DE MICROSCOPIE

Program & Abstracts *Programme & Résumés*

Anniversaire
10
2005 Anniversary

June 18th to 20th, 2015
du 18 au 20 juin 2015

Chelsea Hotel &
Peter Gilgan Centre for Research & Learning

Toronto, Ontario



www.cytometry.ca



CANADIAN CYTOMETRY & MICROSCOPY ASSOCIATION

ASSOCIATION CANADIENNE DE CYTOMÉTRIE ET DE MICROSCOPIE

6th
e

CYTOMETRY & MICROSCOPY SYMPOSIUM SYMPOSIUM DE CYTOMÉTRIE ET DE MICROSCOPIE

Spring 2017 in Montréal, Québec



Printemps 2017 à Montréal, Québec

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WELCOME FROM THE ORGANIZERS

We wish everyone a warm welcome to the 5th Symposium of the Canadian Cytometry and Microscopy Association (CCMA). In 2015, we are especially proud to celebrate the CCMA's 10th anniversary. Over the past 10 years, the CCMA Cytometry and Microscopy Symposium has become the premier Canadian venue for professional development and networking in the fields of microscopy and flow cytometry. Interest in the Core Facility Managers' meeting has continually grown and will reach new levels at the 2015 meeting with a full day of programming. We are thrilled with the continued involvement of the CFI with our association and happy that we have a clear voice at the federal funding level. The CCMA is also the principal venue for flow cytometry and microscopy corporations so be sure to enjoy our sold-out vendor show. The symposium would not be possible without the ongoing support of our corporate partners.

Visit the CCMA's website (www.cytometry.ca) to find resources on microscopy and cytometry and to find out more about the CCMA, which is now a true pan-Canadian organization with members from all across Canada.

Enjoy the remarkable symposium program, take advantage of networking with experts in the field from across Canada, take new information back to your home institutions and have a very productive meeting.

The Organizing Committee

MOT DE BIENVENUE DES ORGANISATEURS

À toutes et tous nous souhaitons la bienvenue au 5^e Symposium de l'Association Canadienne de Cytométrie et de Microscopie (ACCM). En 2015 nous sommes particulièrement fiers de célébrer le 10^e anniversaire de l'ACCM. Au cours des 10 dernières années, le Symposium de Microscopie et de Cytométrie de l'ACCM est devenu un événement de développement professionnel et de réseautage incontournable dans le domaine de la microscopie et de la cytométrie de flux. L'intérêt pour la réunion des directeurs/ices de plateformes de service n'a cessé de croître pour franchir une nouvelle étape en 2015 avec une programmation sur une journée complète. L'intérêt que la FCI porte pour notre association nous encourage et nous sommes très heureux d'avoir une voix au niveau d'agences de financement fédéral. L'ACCM est également une place de choix pour les compagnies en microscopie et en cytométrie de flux, alors assurez-vous de profiter de l'exposition des vendeurs. Le symposium ne serait pas possible sans le concours de nos partenaires corporatifs.

Visitez le site Web de l'ACCM (www.cytometry.ca) pour trouver des informations sur la microscopie et la cytométrie et pour en savoir plus sur l'ACCM qui est maintenant réellement une organisation pancanadienne avec des membres de partout au Canada.

Profitez de la programmation remarquable du symposium, réseautez avec des experts de partout au Canada, rapportez des informations à votre institution et passez une conférence très productive.

Le Comité Organisateur

THE ORGANIZING COMMITTEE

LE COMITE ORGANISATEUR

	<p>Claire Brown, PhD Co-president CCMA / <i>Co-présidente ACCM</i> Director - Advanced Bio-Imaging Facility, McGill University, Montreal <i>Directrice - Service de Bio-Imagerie de Pointe, Université McGill, Montréal</i></p>
	<p>Christopher Spring Co-president CCMA / <i>Co-président ACCM</i> Manager - Flow Cytometry Facility, St Michael's Hospital, Toronto <i>Gestionnaire - Plateforme de Cytométrie de Flux, Hôpital St Michael, Toronto</i></p>
	<p>James Jonkman Vice-president CCMA / <i>Vice-président ACCM</i> General Manager - Advanced Optical Microscopy Facility (AOMF), University Health Network, Toronto <i>Gestionnaire general - Plateforme de Microscopie Optique de Pointe, UHN, Toronto</i></p>
	<p>Guillaume Lesage, PhD Treasurer CCMA / <i>Trésorier ACCM</i> Administrator - Cell Imaging and Analysis Network, McGill University, Montreal <i>Administrateur - Centre d'Imagerie et d'Analyse Cellulaire, Université McGill, Montréal</i></p>
	<p>Thomas Stroh, PhD Communication Director CCMA/ <i>Directeur des Communications ACCM</i> Director - Microscopy Unit, Montreal Neurological Institute, McGill University, Montreal <i>Directeur - Unité de Microscopie, Institut Neurologique de Montréal, Université McGill, Montréal</i></p>
	<p>Marie-Hélène Lacombe Administrator CCMA / <i>Administratrice ACCM</i> Immunophenotyping Platform, MUHC Research Institute, Montreal <i>Plateforme d'immunophénotypage, Institut de recherche CUSM, Montréal</i></p>
	<p>Serghei Dernovici Secretary CCMA / <i>Secrétaire ACCM</i> Manager - Flow Cytometry Facility, Dept. Parasitology, McGill University, Montreal <i>Gestionnaire - Plateforme de Cytométrie de flux, Département de Parasitologie, Université McGill, Montréal</i></p>

2015 CYTOMETRY AND MICROSCOPY SYMPOSIUM AT A GLANCE

Venue legend:

Peter Gilgan Centre for Research and Learning 686 Bay Street	Chelsea Hotel 33 Gerrard Street West
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	Thursday June 18 Core Facility Manager Meeting	Friday June 19 Plenary lectures 1, Workshops 1 and 2 Keynote lecture	Saturday June 20 Plenary lectures 3 and 4, concurrent workshops, CCMA general assembly	
08:00	Registration	Registration	Registration	08:00
09:00	Core Facility Managers' meeting	PLENARY LECTURE 1	PLENARY LECTURE 2	09:00
10:00		Break - Exhibits	Break - Exhibits	10:00
11:00		Workshop 1 - Imaging & Flow	Workshop 3 - Imaging	11:00
12:00		Cellular Assays	Imaging Living Specimens & Super-resolution	12:00
13:00		Corporate Lunch-N-Learn Talks Exhibits	Corporate Lunch-N-Learn Talks Exhibits	13:00
14:00		Workshop 2 - Imaging & Flow	Workshop 4 - Imaging	14:00
15:00		The Complex World of Fluorescent Probes	Rapid 3D Microscopy	15:00
16:00		Break - Exhibits	Break - Exhibits	16:00
17:00	Core Facility Networking Dinner	KEYNOTE LECTURE	PLENARY LECTURE 3	17:00
18:00		WINE & CHEESE RECEPTION POSTER SESSION	CCMA General Assembly	18:00
19:00				19:00
20:00				20:00

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SCHEDULE

Thursday June 18, 2015 – Core Facility Managers' Meeting (Peter Gilgan Centre for Research and Learning – 686 Bay Street) Auditorium

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Registration desk opens at 8:00	
9:00-10:00	Stronger Together: Core facility-based associations CCMA, ABRE, NERLSCD Shared Resources for Education and Training Vision from the CCMA Education Committee
10:00-10:30	COFFEE BREAK
10:30-12:00	Models of Core Facility Financing: Increasing revenue and decreasing expenses Institutional support, setting fees, grants, staffing, group service contracts, self-insurance...
12:00-13:00	LUNCH - Sponsored by SONY ibidi Nikon Lumenera
13:00-15:00	Infrastructure and Operating Funds for Cores - Can we sustain ourselves? Discussion with CFI representatives and decision-makers from various institutions
15:00-15:30	COFFEE BREAK
15:30-16:15	Shared Resources - Shared Responsibility: Quality control and reproducibility in core facilities Responsibilities of Cores, instrument manufacturers, reagent companies, researchers
16:15-17:00	Bread and Butter vs. Crème de la Crème: Offering essential equipment and cutting edge technologies Basic equipment vs. state-of-the-art, cost of service contracts
18:00-21:00	CORE FACILITY NETWORKING DINNER <i>Hot House Restaurant & Bar - 35, Church Street</i>



Friday June 19, 2015

(Chelsea Hotel - 33 Gerrard Street West)

Registration desk opens at 8:00

8:45-9:00 Welcome & Introductory Remarks - Mountbatten Salon

PLENARY LECTURE (PL1)

9:00-10:00 **Biomarker discovery using phospho-flow and mass cytometry** - Mountbatten Salon

Cynthia Guidos

Hospital for Sick Children Research Institute, Toronto

10:00-10:30 **COFFEE BREAK, EXHIBITS** - Churchill Ballroom - Sponsored by

Workshop 1 - Mountbatten Salon

Imaging/Flow

Cellular Assays

Session Organizers - Claire Brown and Chris Spring

10:30 **IF1-** Flow cytometry for cellular assays - When pictures are not enough

Dionne White

Faculty of Medicine Flow Cytometry Facility, University of Toronto

11:00 **IF2-** Automation of the cytokinesis-block micronucleus assay using imaging flow cytometry for high throughput radiation biodosimetry

Matthew Rodrigues

Department of physics, Carleton University, Ottawa

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11:30 **IF3-** Assays to Screens: identifying new drug candidates with automation; human stem cells; high throughput quantitative microscopy and a lot of data

Tony Collins

Stem Cell and Cancer Research Institute, McMaster University, Hamilton

12:00 **IF4-** Protein complementation assays detects spatiotemporal dynamics of protein-protein interactions in living cells

Durgajini Sivanessan

Department of Biochemistry, University of Montréal, Montréal

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LUNCH, EXHIBITS - Churchill Ballroom - Sponsored by

13:00 **LUNCH-N-LEARN 1** - Mountbatten Salon



The merits of LED illumination for fluorescence microscopy as an alternative to Mercury/Metal halide solutions

Jennifer Melo
Lumen Dynamics

LUNCH-N-LEARN 2 - Rossetti







Faster than the speed of sound: The new MACSQuant Tyto MEMS chip based sorting system will revolutionize the way you sort cells

Nicholas Ostrout
Miltenyi Biotec

13:30 **EXHIBITS** - Churchill Ballroom

Friday June 19, 2015 (cont'd)

Workshop 2 - Mountbatten Salon	
<u>Imaging/Flow</u>	
The Complex World of Fluorescent Probes	
Session Organizers - Claire Brown and Chris Spring	
14:00-16:00	14:00 IF5- Use and abuse of antibodies in research and the clinic David Rimm <i>Department of Pathology, Yale School of Medicine, New Haven</i>
	14:30 IF6- Progress in fluorescent reagent development for flow cytometry and microscopy Kelly Lundsten <i>Biolegend, San Diego (CA)</i>
	15:00 IF7- Developing tools for cytometry: a case study in the far-red Roy Edward <i>Biostatus, Chester (UK)</i>
	15:30 IF8- Simple and reliable multicolor fluorescence cell and tissue analysis Jody Martin and Emily Chomyszyn <i>BD Biosciences</i>
16:00-16:30	COFFEE BREAK, EXHIBITS- Churchill Ballroom - Sponsored by  FLUIDIGM
<div> <div> <p>Change venue</p> <p>Go to:</p> <p>Peter Gilgan Centre for Learning 686 Bay St.</p> </div>  </div>	
<p>KEYNOTE LECTURE - Auditorium - Sponsored by  BD</p>	
17:00-18:00	<p>Uncovering new therapeutic avenues for emerging viral diseases: An interdisciplinary approach at the interface of molecular virology, flow cytometry and bio-imaging</p> <p>François Jean <i>Department of Microbiology and Immunology, University of British Columbia, Vancouver</i></p>
18:00-20:00	<p>Wine & Cheese Reception, Poster Session - Gallery - Sponsored by  BD</p>



Saturday June 20, 2015 (Chelsea Hotel - 33 Gerrard Street West)

Registration desk opens at 8:30

PLENARY LECTURE (PL2) - Mountbatten Salon

9:00-10:00

Windows of opportunity - intravital imaging's role in personalized cancer medicine

Ralph S. DaCosta

Princess Margaret Cancer Center and Techna Institute, University Health Network, Toronto

10:00-10:30

COFFEE BREAK, EXHIBITS - Churchill Ballroom - Sponsored by sysmex

Workshop 3 (concurrent sessions)

Imaging - Mountbatten Salon

Imaging Living Specimens & Super-resolution

Session Organizer - James Jonkman

10:30 **I1-** Peeking Into the Brain: Using window chambers and Two-Photon microscopy to study the response of intracranial structures to tumor growth and therapeutics

Gelareh Zadeh

Department of Neurosurgery, Toronto Western Hospital

11:00 **I2-** Live cell imaging under flow conditions

Pina Colarusso

Department of Physiology and Pharmacology, University of Calgary, Calgary

11:30 **I3-** STED microscopy – a positioning in the super-resolution continuum

Thomas Stroh

Montréal Neurological Institute, McGill University, Montréal

12:00 **I4-** Super-resolution analysis of Caveolae and Cav1 scaffolds in Prostate Cancer Cells

Fanrui Meng

Life Sciences Institute Imaging Facility, University of British Columbia, Vancouver

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Flow - Rossetti

Atypical Flow

Session Organizer - Chris Spring

10:30 **F1-** The development of a new cardiovascular risk assay using extracellular vesicles and flow cytometry: Opportunities and challenges

Kevin Judge

BD Biosciences

11:00 **F2-** Defining gut associated lymphoid tissue (GALT) dendritic cell subsets during type 2 immunity

Stephen Redpath

Department of Microbiology and Immunology, University of British Columbia, Vancouver

11:30 **F3-** Single cell profiling of signaling responses using phospho flow cytometry

Julie Yuan

Hospital for Sick Children, UHN Flow Cytometry Facility, Toronto

12:00 **F4-** More B-angstroms for the buck! Spectral flow cytometry

Gisele Knowles

Sony Biotechnologies

LUNCH, EXHIBITS - Churchill Ballroom - Sponsored by



13:00 **LUNCH-N-LEARN 3** - Mountbatten Salon

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Rick Ricciardi

Sony Biotechnology Inc.

LUNCH-N-LEARN 4 - Rossetti



Multiplexing with hyperspectral imaging: a fast way to track simultaneously multiple cellular dynamics

Francesca Mangiarini

Photon etc.

13:30

EXHIBITS - Churchill Ballroom



Saturday June 20, 2015 (cont'd)

(Chelsea Hotel - 33 Gerrard Street West)

Workshop 4 (concurrent sessions)	
14:00-16:00	<p><u>Imaging</u> - Mountbatten Salon Rapid 3D Microscopy</p> <p><i>Session Organizer - Michael Woodside</i></p> <p>14:00 I5- Resonant scanning vs spinning disk for fast 3D confocal imaging James Jonkman <i>Advanced Optical Microscopy Facility (AOMF), University Health Network, Toronto</i></p> <p>Sponsored by </p> <p>14:30 I6- Rapid 3D imaging of cleared tissue via lightsheet microscopy Douglas Richardson <i>Harvard Center for Biological Imaging, Harvard University, Cambridge (MA)</i></p> <p>Sponsored by </p> <p>15:15 I7- Two-photon optogenetic control of enzymatic activities with 3D living brain tissue imaging Kenichi Okamoto <i>Lunenfeld-Tannenbaum Research Institute, Toronto</i></p> <p>Sponsored by </p>
	<p><u>Flow</u> - Rossetti Standards and Standardization in Cytometry</p> <p><i>Session Organizer - Marie-Hélène Lacombe</i></p> <p>14:00 F5- Microparticle analysis: How not to FACS it up Christopher Spring <i>Keenan Research Centre for Biomedical Science, Toronto</i></p> <p>14:30 F6- Standardizing Multi-Centre Immune Monitoring by Flow Cytometry: An initiative by The Canadian National Transplant Research Program (CNTRP) Salima Janmohamed <i>Beckman Coulter Inc.</i></p> <p>15:00 F7- Data standards, quality control and automated gating for flow cytometry based diagnosis and discovery Ryan Brinkman <i>Department of Medical Genetics, University of British Columbia, Vancouver</i></p> <p>15:30 F8- Are cells perturbed after cell sorting? Peter Lopez <i>New York University Langone Medical Center, New York (NY)</i></p> <p>Sponsored by </p>
16:00-16:30	COFFEE BREAK, EXHIBITS - Churchill Ballroom - Sponsored by
16:30-17:30	<p>PLENARY LECTURE (PL3) - Mountbatten Salon</p> <p>High throughput cell surface protein analysis: A platform for biomarker discovery</p> <p>Laurie Ailles <i>Ontario Institute for Cancer Research and Princess Margaret Cancer Centre, Toronto</i></p>
17:30-18:00	Awards & Closing Remarks - Mountbatten Salon
18:00-18:30	CCMA General Assembly - Mountbatten Salon All are welcome to attend

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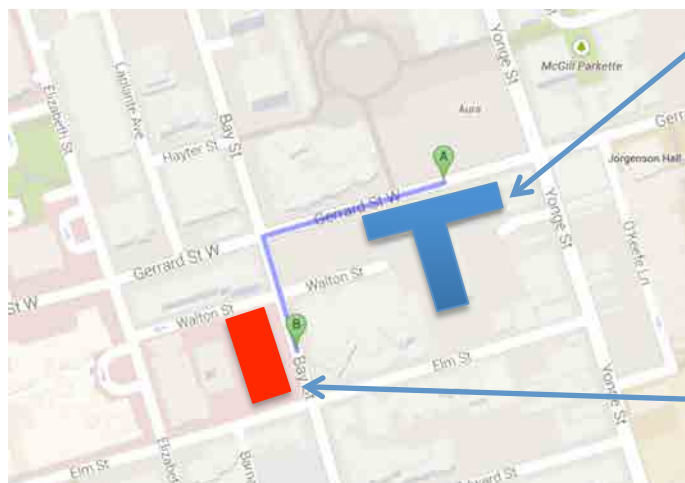
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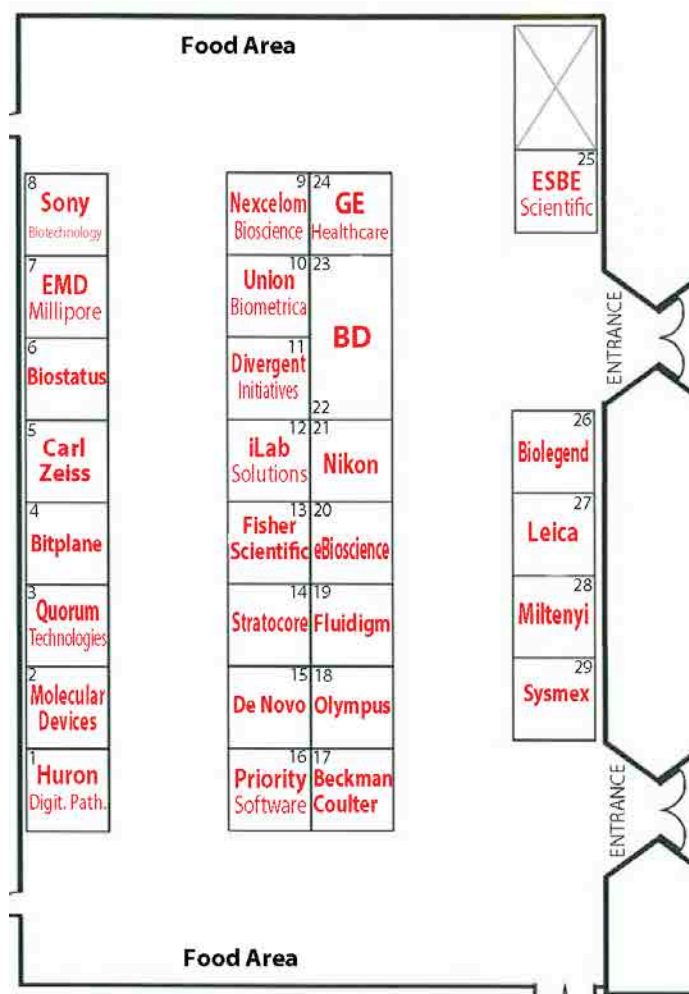


VENUE LOCATIONS



Chelsea Hotel - 33 Gerrard Street West	
Room	Events
Mountbatten Salon	Plenary Sessions Workshops 1, 2, 3 Imaging, and 4 Imaging Lunch-N-Learn 1 and 3
Rossetti	Workshops 3 Flow, and 4 Flow Lunch-N-Learn 2 and 4
Churchill Ballroom	Exhibits Coffee and Lunch Breaks
Peter Gilgan Centre for Learning - 686 Bay Street	
Room	Events
Auditorium	Core Facility Managers meeting Keynote Lecture
Gallery	Poster session Wine and Cheese Reception

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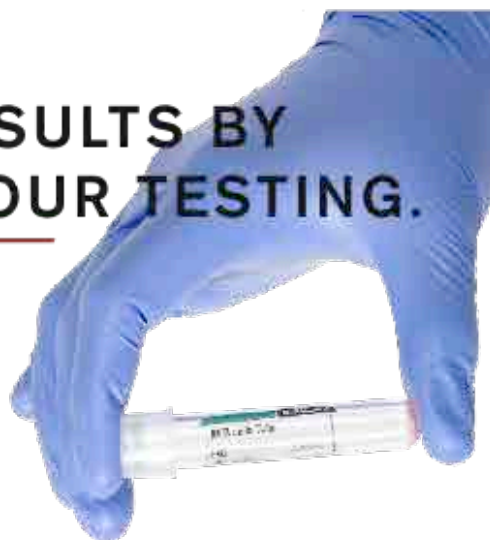
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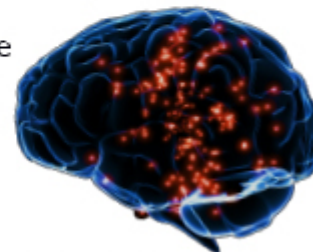


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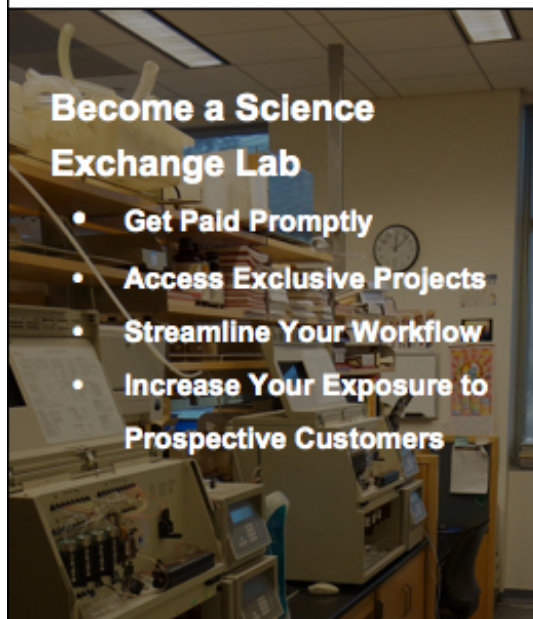
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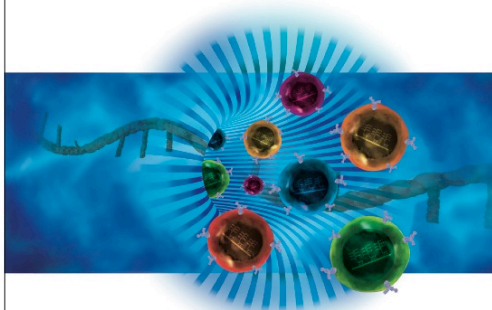
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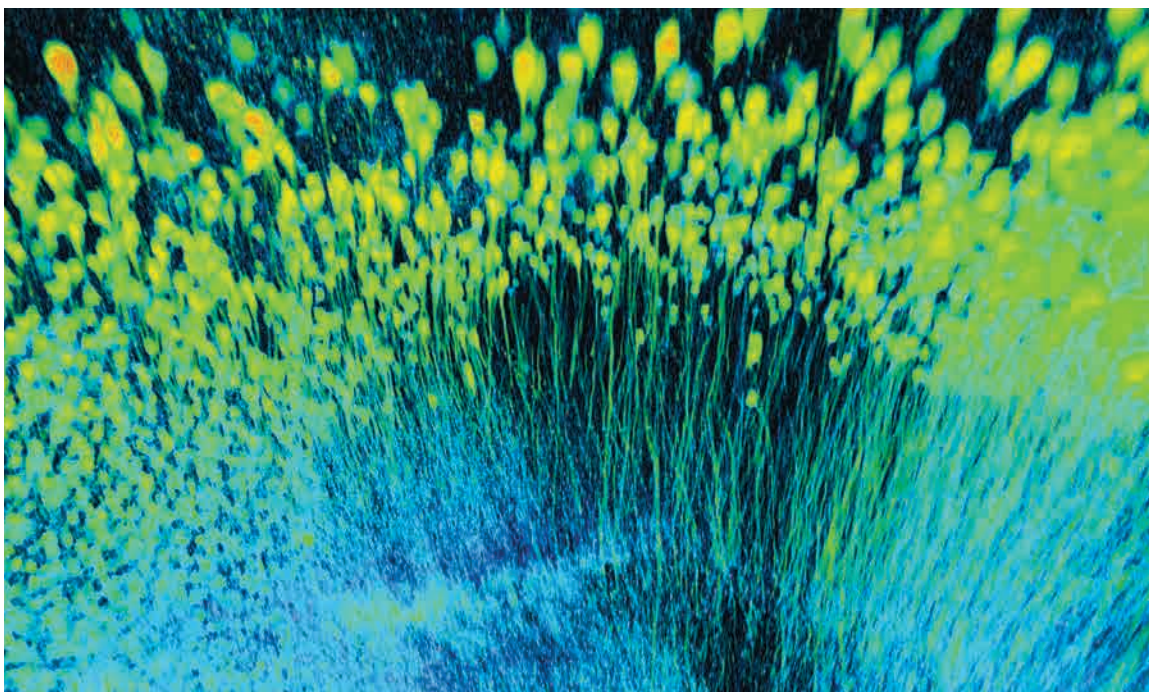
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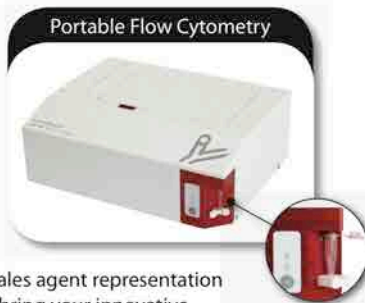
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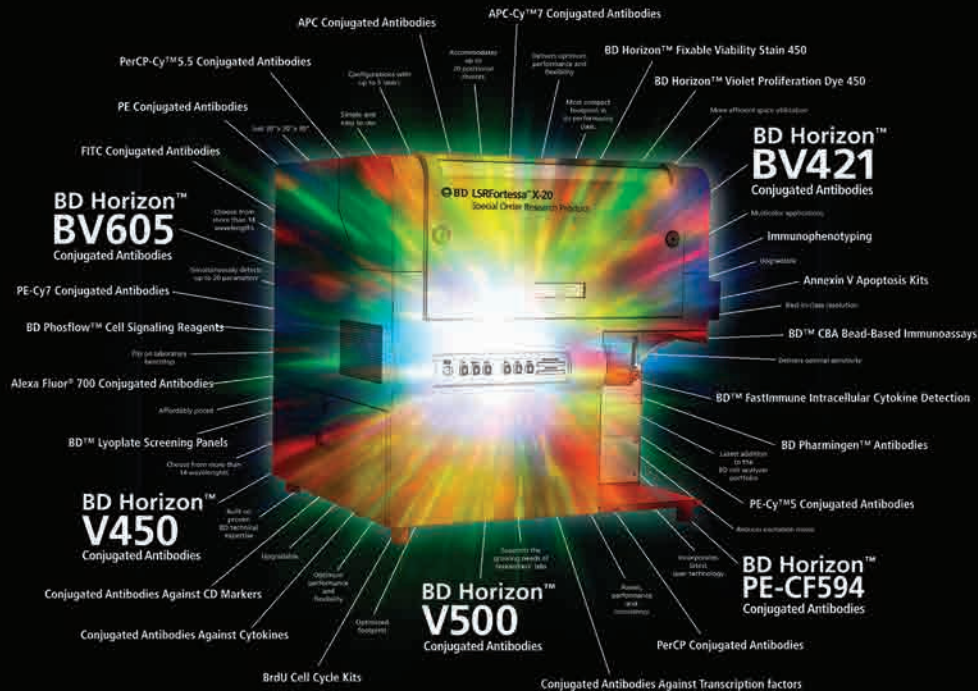
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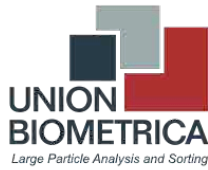
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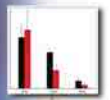
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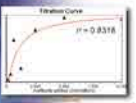
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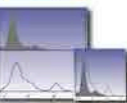
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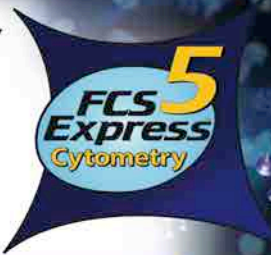
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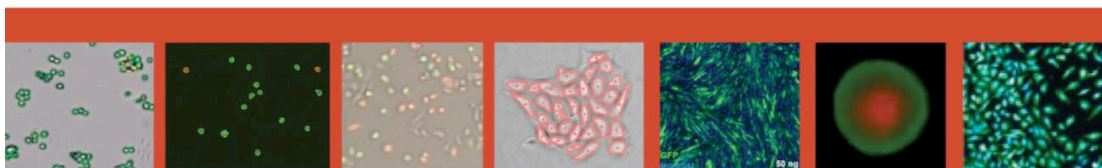
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