

**9th INDO-US WORKSHOP
ON
APPLICATION OF FLOW CYTOMETRY IN STEM CELL
BIOLOGY AND REGENERATIVE MEDICINE
JULY 21-25, 2008**

Organized by
**The Manipal Institute of Regenerative Medicine, Manipal University,
 Bangalore, India**
**National Center for Biological Sciences, Tata Institute for Fundamental
 Research, Bangalore, India**
**Department of Pathology, University of Miami Miller School of Medicine
 Miami, Fl. USA.**

Faculty: Following well known flow cytometry experts from India and abroad have been invited to teach and participate in the workshop

Faculty from abroad	Country
Dr. D.J. Prockop	USA
Dr. William Telford	USA
Dr. Scot Cram	USA
Dr. Vincent Shankey	USA
Dr. Awtar Krishan	USA
Dr. Michael Ormerod	UK
Dr. Vivek Tanavde	Singapore
Dr. Indresh Kaur	USA

Faculty from India	Address
Dr. Lissy Krishnan	Trivandrum
Dr. Jyoti Kode	Mumbai
Dr. Aparna Khanna	Mumbai
Dr. Geeta Vemuganthu	Hyderabad
Dr. Gopal Pandey	Hyderabad
Dr. Kaushik Deb	Bangalore
Dr. Malancha Ta	Bangalore
Dr. Jyothi Prasanna	Bangalore
Dr. Maneesh Inamdar	Bangalore
Dr. Sudheer Krishna	Bangalore

Dr. M.M. Panicker	Bangalore
Dr. Annapoorni Rangarajan	Bangalore
Dr. Vijay Sharma	Bangalore

Lab Facilities: The wet labs will be held in the Central Imaging and Flow Cytometry Facility of the National Center for Biological Sciences. For the workshop, the following instruments will be available: FACScan and Cyan ADP analyzers and FACSVantage and FACS Aria cell sorters. In addition we have invited Beckman Coulter, Becton Dickinson and Guava Technologies to bring their latest flow cytometers along with their technical staff to the workshop.

Participants: Lectures will be open to all students of MIRM, NCBS and neighboring institutions. Participation in wet labs, tutorials and other events will be limited to registered students. The wet labs will be open to 30 registered students selected by the selection committee. The deadline for accepting applications is **June 10th**.

Curriculum

1. Basics of Analytical Cytometry and sorting:

- Instrumentation, fluorochromes, excitation/emission
- Optics, filters and mirrors
- Fluidics and sheath flow
- Thresholds, discriminators and gates
- Laser light scatter, electronic volume and fluorescence
- Log vs. linear signal collection/gain and amplification
- Color compensation
- Data storage and display
- Troubleshooting

2. Phenotype Analysis:

- Cell surface markers in Hematopoiesis
- Embryonic Stem cell Markers
- Human Tumor Stem Cell Markers
- Endothelial and Mesenchymal Cell Markers

3. Stem Cell Analysis:

- Phenotype Analysis of hematopoietic stem cells.
- Stem cell volume analysis
- Mesenchymal Cell Analysis
- SP Cell Analysis

ALDH Analysis
CD34 Enumeration in Bone marrow transplantation

4. Electronic and Magnetic Sorting of stem cell populations:

Sorting mesenchymal stem cells
Sorting side population stem cells
Sorting differentiated populations

5. Phosphorylation and Signal Transduction:

Phosphorylation analysis in human embryonic stem cells
Phosphorylation analysis in mesenchymal stem cells
Signal Transduction

6. Cell Cycle, Proliferation and Apoptosis

7. Cytokine Monitoring

Proposed Venue and Dates:

Labs and wet demonstrations will be held in the Central Imaging and Flow Cytometry Facility of the NCBS, Bangalore.

Organizers:

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