

# FLUORESCENCE MICROSCOPY UNIT

ISSUE 12

MAY 2017

## WELCOME!

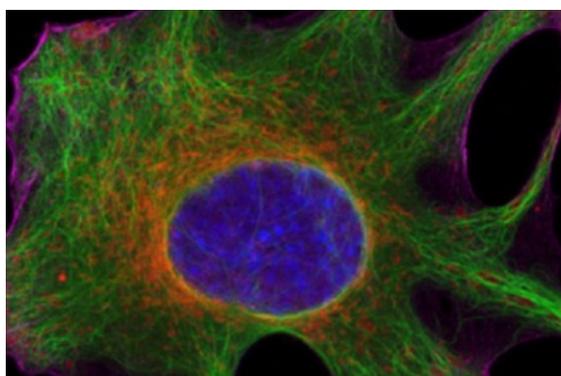
Hello! Welcome to 2017, from all of us here at the CAF Fluorescence Microscopy Unit. We have quite a bit to tell you about in the first newsletter of the year. Our students performed very well at the Microscopy Society of Southern Africa's annual conference, MSSA 2016. We will share the experiences of the first ISAC Cape Town Flow Cytometry Workshop 2017 that was held in con-

junction with BD and CAF. We also have some great news to share with you about a new cell sorter that will be arriving in our lab soon. Lastly, there are some staff developments that we will inform you about. As always, please feel free to contact us regarding your project planning with microscopy and flow cytometry, we are always happy to assist. We hope you enjoy this issue!

### IN THIS ISSUE

WELCOME	1
MSSA2016	1
ISAC WORKSHOP	2
MIDYEAR TRAINING	3
NEW INSTRUMENT	3
STAFF DEVELOPMENTS	3

## MICROSCOPY SOCIETY OF SOUTHERN AFRICA (MMSA) CONFERENCE PORT ELIZABETH, 5-8 DECEMBER 2016



*A 4-colour confocal micrograph of a cell stained for different cytoskeletal proteins as presented by Ms Dumisile Lumkwana at MSSA2016.*

Early in December 2016, the Nelson Mandela Metropolitan University hosted the 54th annual MSSA conference, which was held at the Boardwalk convention centre in Port Elizabeth. This meeting was attended by researchers who utilize a wide range of microscopy techniques to answer their research questions.

Conference contributions were given in the form of posters, as well as oral presentations, with a number of CAF users from Stellenbosch University presenting their work. The new developments in CAF on correlative light and electron microscop-

py (CLEM) were highlighted by a number of our users, which was well received by the rest of the microscopy community. In addition, we would like to congratulate the following students: Jurgen Kriel for the **WIRSAM SCIENTIFIC PRIZE** for the best paper presented by a student author; Dumisile Lumkwana for the **WIRSAM LIGHT MICROSCOPY PRIZE** for the best light microscopy presentation; and Yigael Powrie for the **THE SCIENTIFIC GROUP AWARD** for the best paper using confocal microscopy.



*Jurgen Kriel (left), Dumisile Lumkwana (middle) and Yigael Powrie (right).*

# ISAC CAPE TOWN FLOW CYTOMETRY WORKSHOP 2017



## The First Flow Cytometry Workshop

Tygerberg Medical Campus, Cape Town

11-13 April 2017

In the week 11-13th April 2017, our unit hosted the very first ISAC Cape Town Flow Cytometry Workshop, in partnership with the International Society for the Advancement of Cytometry (ISAC) and BD Biosciences. The workshop was held at the Tygerberg Medical Campus, with an international ISAC faculty that would teach on the principles and methods in flow cytometry. The Live Education Task Force of ISAC has hosted similar flow cytometry workshops across the globe, with the aim of educating postgraduates and researchers in flow cytometric techniques and analysis to improve the global quality of outputs from flow cytometry data and ensure that expertise are shared amongst all flow cytometrists.



*All delegates and faculty members ready to listen to lectures during the First ISAC Flow Cytometry Workshop in Cape Town.*

Eight internationally acclaimed experts in flow cytometry, with the assistance from our local flow cytometrists, conducted lectures and wetlabs on a range of topics, including stem cell analysis, cell cycle analysis, proliferation and apoptosis, polychromatic flow cytometry, cell signaling and phosphoproteins, electrostatic sorting and measures of quality control.

This workshop included 52 participants in academic and industry all across South Africa, with some participants joining us from other coun-

tries within Southern Africa. Overall, this workshop was very well received, and sparked discussions between the ISAC faculty and participants regarding project planning, quality control, troubleshooting, etc.



*Dr John Michie (SA, left) and Dr Vivek Tanavde (India, right) presenting lectures.*

At the end, a quiz was given to the participants and each of them received a certificate as well as all course material. The four top students all received free ISAC membership, which enables them to apply for funding to travel abroad to present their flow cytometry work.



*Prof A Krishan (USA), Ms Z Maciorowski (France), the four winners of the free ISAC membership and Ms L Engelbrecht (SA).*

Overall this workshop was a great success, with both the ISAC faculty and the participants thoroughly enjoying the experience. Our staff members worked hard to make this a world class experience. We hope to see you at the next ISAC course!

# NEW INSTRUMENT

## BD FACSMELODY CELL SORTER



The BD FACSMelody is a new instrument in the BD Cell sorter range, dedicated to simpler sorting. This instrument has a small footprint, measuring approximately 50cm by 50cm. This easy-to-use cell sorter accommodates operators of all skill levels, regardless of experience.

Despite its size and simplicity, has 3 lasers (405nm, 400nm and 640nm), with 9 parameters available for analysis, thus providing high sensitivity and resolution for multicolour flow cytometry with reproducible results.

The instrument and software is easy to use and understand, with prompts that guide the user. The BD FACSDiva software is intuitive and easy to understand, and allows for a streamlined workflow. The system is available with tube for plate sorting as well, allowing for cloning and genotyping experiments for up to 386 well plates.

This exciting new instrument will be placed in our unit in June 2017.

# STAFF DEVELOPMENTS

## MATERNITY LEAVE

As many of you are aware, manager of the unit, Lize Engelbrecht is expecting and will be on maternity leave as of the second week of July 2017. The unit will be running as usual, with Rozanne and Dumisile available for assistance and project planning.



## TRAINING INITIATIVE

### MID-YEAR TRAINING: 19-23 JUNE

It is almost time again for the annual Central Analytical Facilities Mid-Year Training Initiative, which will be held in the week of 19-23 June 2017.

Courses to be presented in the unit:

- Flow Cytometry and Cell Sorting (by Ms Rozanne Adams)
- Confocal and Super-resolution Microscopy (by Ms Lize Engelbrecht and Ms Dumisile Lumkwana)
- Correlative Light and Electron Microscopy (by Lize Engelbrecht in collaboration with the Scanning Electron Microscopy unit.)

Selected participants will soon receive notifications.

### Contact us:

#### Stellenbosch Main campus

**Mrs. Lize Engelbrecht** (lizeb@sun.ac.za)

**Ms. Rozanne Adams** (rozanne@sun.ac.za)

**Ms. Dumisile Lumkwana** (dumisile@sun.ac.za)

Tel: 021 808 9327 / 4030

**Booking system:** [http://www.supersaas.com/schedule/CAF\\_Booking\\_systems/CAF\\_Fluorescent\\_Microscopy\\_Unit](http://www.supersaas.com/schedule/CAF_Booking_systems/CAF_Fluorescent_Microscopy_Unit)

**Website:** [www.sun.ac.za/caf](http://www.sun.ac.za/caf)

### Tygerberg Flow Cytometry Centre:

**Mrs. Andrea Gutschmidt** (andreag@sun.ac.za)

Tel: 021 938 9400 / 9786