



ICGEB International Centre for Genetic Engineering and Biotechnology

Meetings and Courses 2022

ICGEB Course

FluoMicro@ICGEB - ICGEB Practical Course of Fluorescence Microscopy and high throughput imaging

4-6 October 2022 | Trieste, ITALY

PROGRAM

Tuesday 4th October 2022 – Day 1

08.00	Bus departure from city centre
08.30	<i>Course Registration</i> <i>ICGEB Foyer, 'W' Building</i>
	<i>Morning sessions - Seminar room 'W' Building</i>
09.15	Welcome address Alessandro Marcello , ICGEB Trieste, Italy
09.30	Fluorescence Microscopy: from basic principles to instrumental options Gabriele Baj , University of Trieste, Italy
10.30	<i>Coffee break</i>
11.00	Setup and technology of a confocal microscope Alessandro Cometta , Zeiss, Milan, Italy
12.00	Optimization of specimens for fluorescence microscopy Michaela Grandolfo , SISSA, Trieste, Italy
13.00	<i>Group photo</i> <i>Lunch at Cafeteria, Ground Floor, 'C' Building</i>
	<i>Afternoon practical sessions</i>
14.30	practical session I (stations 1, 2, 3 & 4)
16.45	practical session II (stations 1, 2, 3 & 4)
19.00	<i>Wine & Cheese at ICGEB Lobby</i>

Wednesday 5th October 2022 - Day 2

Morning sessions – Seminar room ‘W’ Building

- 09.00 High-throughput imaging
Gianluca Pegoraro, NIH, Bethesda, MD, USA
- 10.00 Sponsored Technology: Super-resolution optical imaging using a microsphere-based objective lens
Francesco Valente, Lig NanoWise
- 11.00 *Coffee break*
- 11.30 Acquisition and processing of images
Davide Mazza, San Raffaele, Milan, Italy
- 12.30 Cutting-edge Technology: Making virtues out of necessity: an Innovative assay for drug repurposing screenings against SARS-CoV-2 infection
Luca Braga, ICGEB Trieste, Italy
- 13.30 *Lunch at Cafeteria, Ground Floor, ‘C’ Building*

Afternoon practical sessions

- 14.30 practical session I
(stations 1, 2, 3 & 4)
- 16.45 practical session II
(stations 1, 2, 3 & 4)
- 20.00 *Happy hour sponsored by Zeiss*

Thursday 6th October 2022 - Day 3

Morning sessions - Seminar room ‘W’ Building

- 09.00 Cutting-edge Technology: Correlative light-electron microscopy (CLEM) in modern bio-medical research
Roman Polishchuk, TIGEM, Naples, Italy
- 10.00 Cutting-edge Technology: Advanced microscopy technologies to study positive-strand RNA viruses
Mirko Cortese, TIGEM, Naples, Italy
- 11.00 *Coffee break*
- 11.30 Cutting-edge Technology: Quantitative imaging for the study of nuclear organisation in space and time
Paolo Maiuri, IFOM, Milan, Italy
- 12:15 Break

12.30 Cutting-edge Technology: Life Beyond the Pixels: Image Analysis and Machine Learning Methods for Single-Cell Drug Discovery
Peter Horvath, Institute of Biochemistry Biological Research Centre, Szeged, Hungary

13.15 Concluding remarks, attendance certificates

13.30 *Lunch at Cafeteria, Ground Floor, 'C' Building*

Afternoon to 17.00 Participants may visit the facility of microscopy at the University of Trieste that hosts:

- The Elyra 7 lattice SIM microscope (Zeiss) integrated with the GEMINi 300 SEM for correlative microscopy;
- The multiphoton A1R-MP (Nikon).

Practical sessions: participants will be divided in groups of maximum 10 members who will rotate between the four practical stations.

- **Station 1 (Room T44):** Confocal imaging – Zeiss LSM880 with Airyscan module
Alessandro Cometta and Tea Carletti (ICGEB Trieste, Italy)
- **Station 2 (Room T45):** Live Imaging – Nikon Eclipse Ti Inverted Microscope with Okolab stage incubator
Nezka Kavcic and Andrea Colliva (ICGEB Trieste, Italy)
- **Station 3 (Seminar Room):** High-throughput Screening - PerkinElmer Operetta high-content screening
Luca Braga, Gianluca Pegoraro and Veronique Berchet (Perkin Elmer)
- **Station 4 (Common Room):** Image processing and quantitative analysis – ImageJ/Fiji freeware
Paolo Maiuri and Davide Mazza

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