Cytometry, Sort & Transmission Electronic Microscopy (CYSTEM)

About us

The Cytometry, Sort & Transmission Electronic Microscopy platform (CYSTEM) is an integral part of the LMGE (http://www.lmge.univ-bpclermont.fr/) of Clermont Auvergne University. The objective of this platform is to give access to microbiologists, health personnel or environmentalists to a powerful instrumental park allowing structural and functional analyzes of biological entities. It covers complementary approaches of

enumeration, isolation, purification in cytometry as well as a fine ultra-structural analysis in electron microscopy. In this context the cytometry platform offers the possibility of an autonomous or framed use of analytical cytometers and / or sorters and a transmission electron microscope (see instrumentation). The scientific and technical responsibilities of the platform are provided by LMGE staff (Jonathan Colombet, IE, Hemine Billard, technician) guaranteeing an optimal state of functioning and the provision of technical and scientific expertise.

Our services

The platform provides its staff for the delivery of services (quantification, analysis, sorting, characterization). Free access, subject to notifying platform managers and prior essential training (at least with platform staff) is only possible for the FACS Calibur cytometer.
The use of the FACS ARIA analyzer-sorter cytometer or the transmission electron microscope is only possible under the supervision of the personnel of the platform and in the access schedules defined with it.
The flow cytometry platform offers a fee schedule adapted to each device. The rates of the various services performed are heard for one hour of use of the device. These rates are set each year to amortize maintenance costs. Rates are available from the technical staff of the platform.

Equipments

The platform is equipped with 2 cytometers and a transmission electron microscope:

- Flow Cytometer FACS Calibur Analyzer: Multi-parameter system for multi-color analysis and primary cell sorting. Device equipped with a 488 nm blue laser source, it allows the simultaneous analysis of 4 fluorescences in addition to size and structure parameters.
- FACS Aria Fusion SORP Flow Analyzer / Sorter in H3X configuration: Multi-parameter system for multi-color analysis, sorting and enrichment of high-throughput cells. Class II containment device provided with 5 laser excitation sources (640, 561, 488, 405 and 355 nm), it allows the simultaneous analysis of 18 fluorescences in addition to size and structure parameters. It allows secure sorting from 0 to> 999 999 high-throughput cells up to 4 different subpopulations with temperature control of sorted fractions.
- JEOL 1200 EX transmission electron microscope operating at 80 kV. The latter will be replaced in 2019 by an electron microscope that will provide solutions for a wide range of issues in the fields of chemistry, materials and biological sciences.

CYSTEM

CYtometry, Sort & Transmis
Electronic Microscopy

Microscopy - Imaging

Contacts

Scientific & technical experts

Jonathan Colombet(mailto:Jonathan%2ECOLOMBET%40uca%2Efr?Subject=&body=)

Hermine Billard(mailto:Hermine%2EBILLARD%40uca%2Efr?Subject=&body=)

Access to the service

The LMGE cytometry platform is installed in the premises of the Microorganisms Laboratory: Genomes and Environments (LMGE), on the ground floor of the building.

Those wishing to use the platform should contact and make an appointment with the platform staff.

Address

LMGE-Clermont Auvergne University

University Campus of Cézeaux, 1 Impasse Amélie Murat,

TSA 60026, CS 60026

63178 AUBIERE Cedex, France

Partner laboratory

(https://www.uca.fr/recherche/structures-de-recherche/laboratoires/laboratoire-microorganismes-genome-environnement)

https://partner.uca.fr/english-version/our-area-of-expertise/biology-and-health-technologies/cytometry-sort-transmission-electronic-microscopy-cystem(https://partner.uca.fr/english-version/our-area-of-expertise/biology-and-health-technologies/cytometry-sort-transmission-electronic-microscopy-cystem)