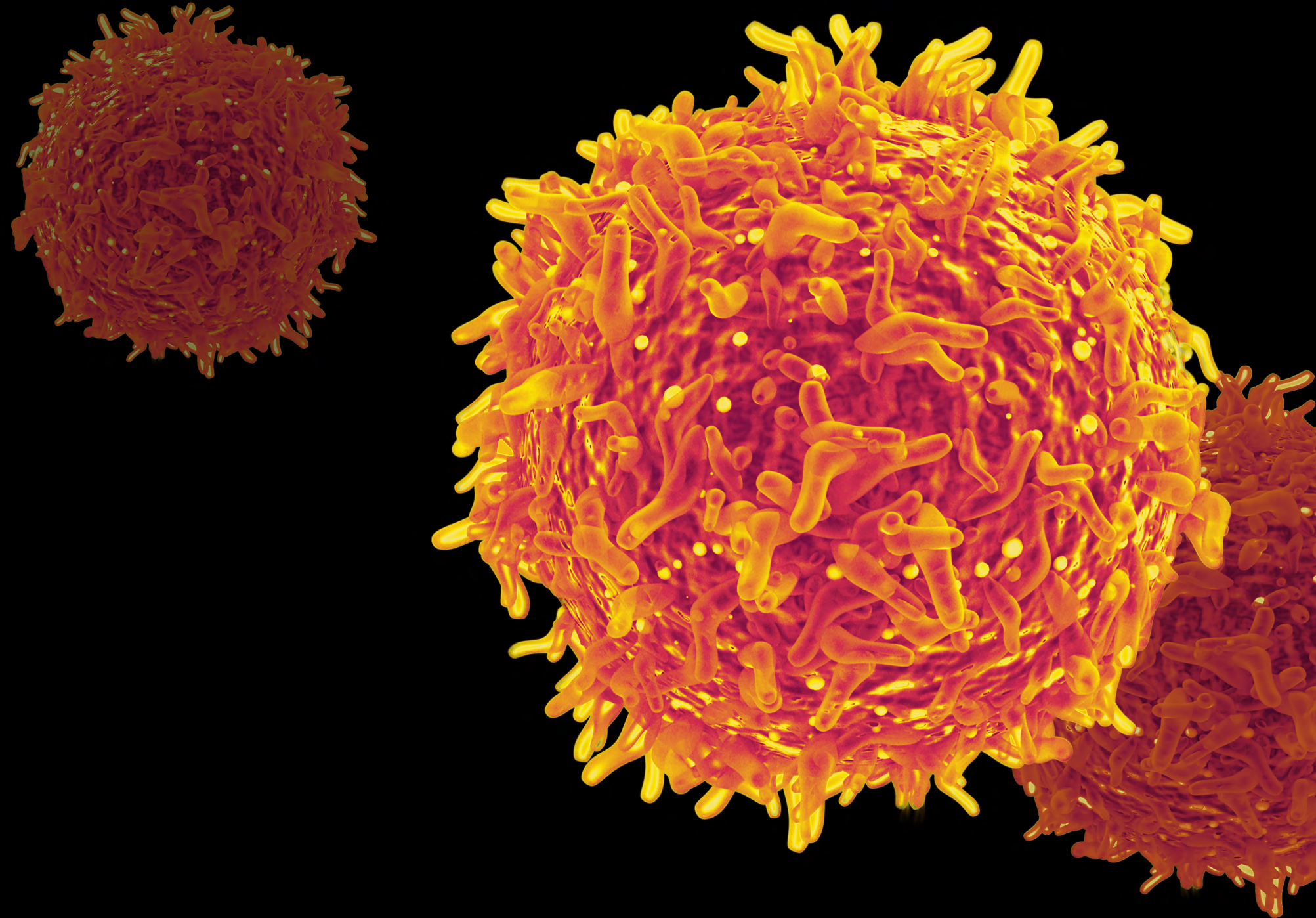




Université 
de Montréal

Institute for Research in
Immunology and Cancer



Multidisciplinary
research training
in life **sciences**

IRIC

Why study at IRIC?

IRIC, located in the heart of the Université de Montréal campus, operates according to a unique model in Canada that combines, under one roof, fundamental research activities, a university-level training program and a research maturation team. These generate discoveries that advance knowledge and that could quickly translate into new therapeutic solutions.

7

research topics

150+

scientists in training

1

Drug Discovery Unit

10

core facilities

25

Principal Investigators

1

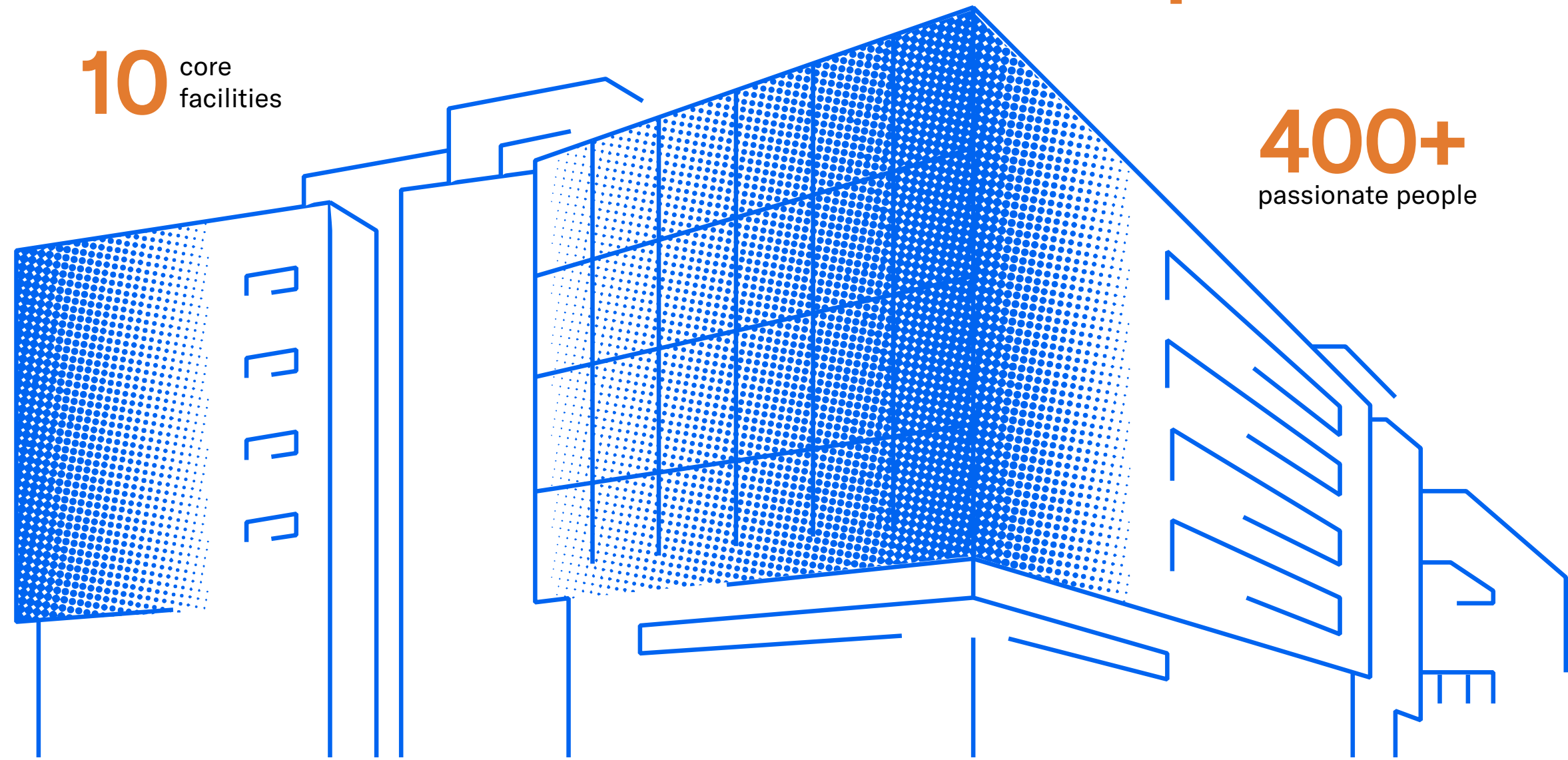
Various study programs including 1 unique to IRIC

1000+

scientific publications

400+

passionate people



Principal Investigators



Julie Lessard
Chromatin Structure and
Stem Cell Biology



Sylvie Mader
Molecular Targeting in Breast
Cancer Treatment



François Major
RNA Engineering



Anne Marinier
Drug Discovery



Vincent Archambault
Cell Cycle Regulation



Katherine Borden
Structure and Function of the
Cell Nucleus



Delphine Bouilly
Design and Application of
Electronic Nanobiosensors



Michel Bouvier
Molecular Pharmacology



Sylvain Meloche
Signalling and Cell Growth



Claude Perreault
Immunobiology



Philippe P. Roux
Cell Signalling and Proteomics



Guy Sauvageau
Molecular Genetics of Stem
Cells



Sébastien Carréno
Cellular Mechanisms of
Morphogenesis during Mitosis
and Cell Motility



Geneviève Deblois
Metabolic and Epigenetic
Alterations in Cancer



Gregory Emery
Vesicular Trafficking and
Cell Signalling



Etienne Gagnon
Cancer Immunobiology



Matthew Smith
Cancer Signalling and
Structural Biology



Marc Therrien
Intracellular Signalling



Pierre Thibault
Proteomics and Mass
Spectrometry



Trang Hoang
Hematopoiesis and Leukemia



David Knapp
Cellular Engineering



Jean-Claude Labbé
Cell Division and
Differentiation



Sébastien Lemieux
Functional and Structural
Bioinformatics



Vincent Q. Trinh
Digital Histology and
Advanced Pathology



Brian Wilhelm
High-Throughput Genomics

Research topics

Targeted Therapies & Diagnostics

Identification of biological markers of cancer and development of new diagnostic tools. Development of new targeted therapies and innovative drugs against cancer.

Borden, Bouilly, Bouvier, Carréno, Deblois, Gagnon, Hoang, Lessard, Mader, Major, Marinier, Meloche, Roux, Perreault, Sauvageau, Therrien, Thibault, Trinh, Wilhelm

Computational Analysis & Modeling

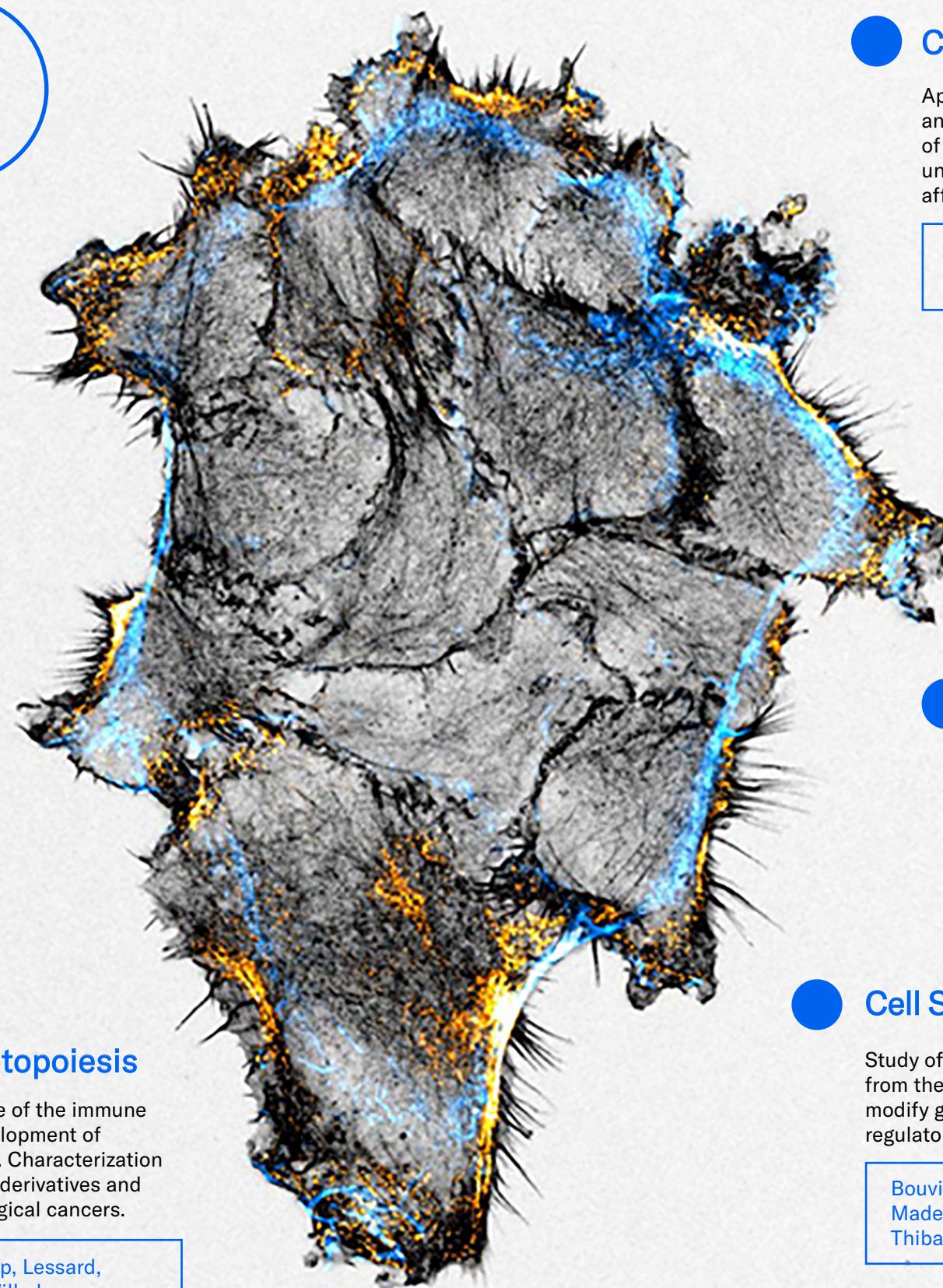
Development of informatics tools for the analysis and interpretation of large biological datasets including genomics, proteomics and structural biology data. Modeling of complex biological systems.

Bouilly, Bouvier, Knapp, Labbé, Lemieux, Mader, Major, Marinier, Wilhelm

Immunology & Hematopoiesis

Understanding the protective role of the immune system against cancers and development of immuno-therapeutic approaches. Characterization of the blood stem cells and their derivatives and study of the genesis of hematological cancers.

Borden, Gagnon, Hoang, Knapp, Lessard, Perreault, Sauvageau, Roux, Wilhelm



Chemical & Structural Biology

Application of chemical analysis techniques to study and manipulate biological systems. Determination of the structure of biological macromolecules and understanding of how alterations of these structures affect their functions.

Archambault, Borden, Bouilly, Bouvier, Marinier, Smith, Therrien, Thibault

Genomics & Epigenetics

Study of how cells perceive and interpret stimuli from their environment and how those signals modify gene expression and the activity of the cell's regulatory proteins.

Deblois, Knapp, Lemieux, Lessard, Mader, Major, Sauvageau, Trinh, Verreault, Wilhelm

Cell Division & Migration

Identification of the details of the mechanics and regulatory processes of the cell cycle, division and movement of normal and cancer cells.

Archambault, Carréno, Emery, Labbé, Meloche, Roux

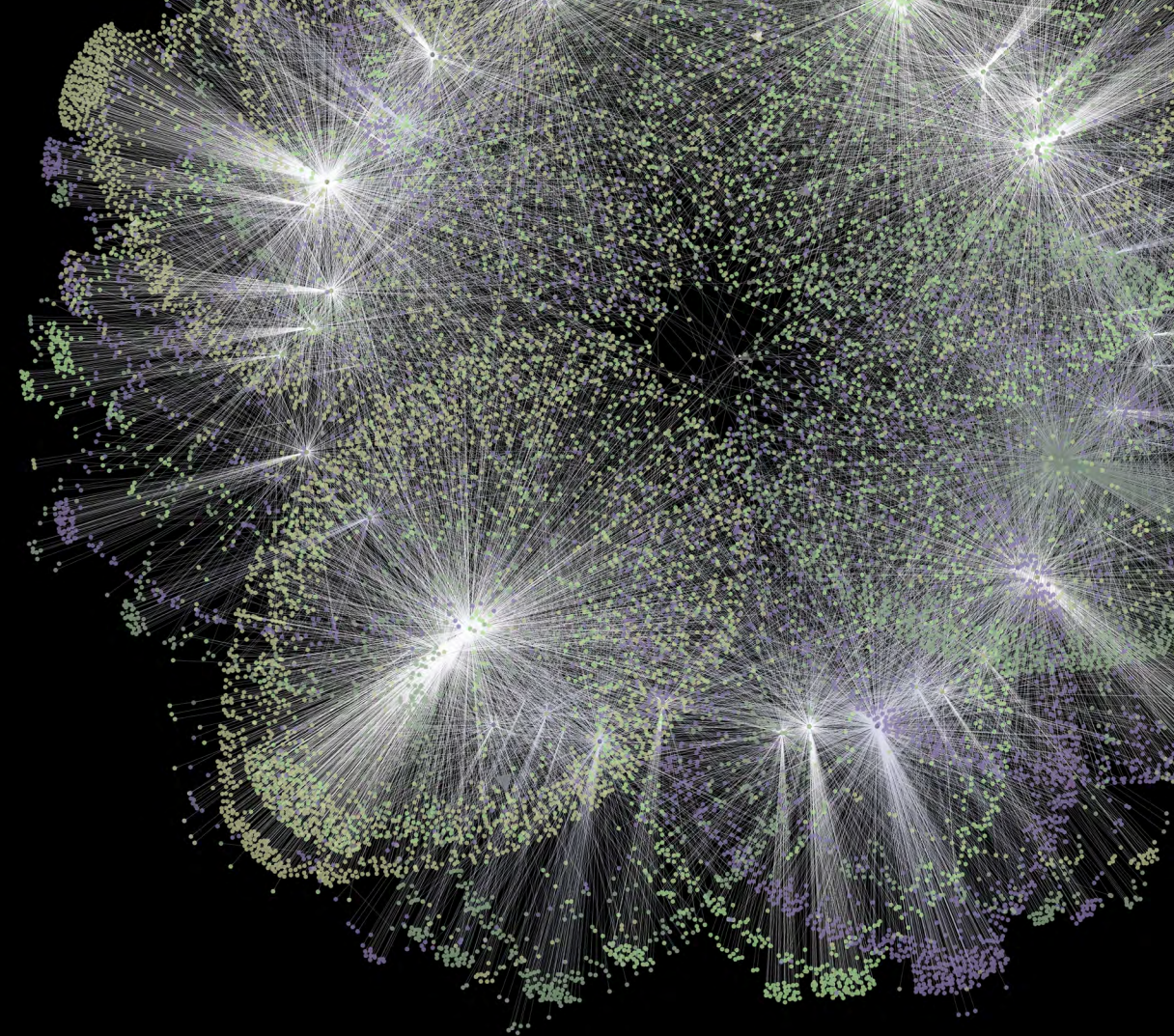
Cell Signaling & Protein Dynamics

Study of how cells perceive and interpret stimuli from their environment and how those signals modify gene expression and the activity of the cell's regulatory proteins.

Bouvier, Carréno, Deblois, Gagnon, Emery, Mader, Meloche, Roux, Smith, Therrien, Thibault

Accessing infrastructures on the cutting edge of biomedical research

IRIC is home to 10 core research facilities and 1 Drug Discovery Unit. By coming to IRIC, you will learn how to use the various technologies available and then apply them in the context of your project.



Drug Discovery Unit

Synthesis of original and specific small molecules leading to the discovery of chemical entities with therapeutic potential

Bio-Imaging

State-of-the-art microscopy for research

Bioinformatics

Complex computer analysis of a large volume of data generated by research

Biophysics/NMR

Molecular structure and interaction analysis using nuclear magnetic resonance (NMR)

ChemoGenix

Human genome-wide CRISPR/Cas9 screening with access to the largest repertoire of chemogenomic signatures

High-throughput screening

Robotic systems that can measure the effect of hundreds of thousands of molecules

In vivo Biology

Study of biological mechanisms using rodent models

Genomics

Determining the genetic code and measuring gene expression

Histology

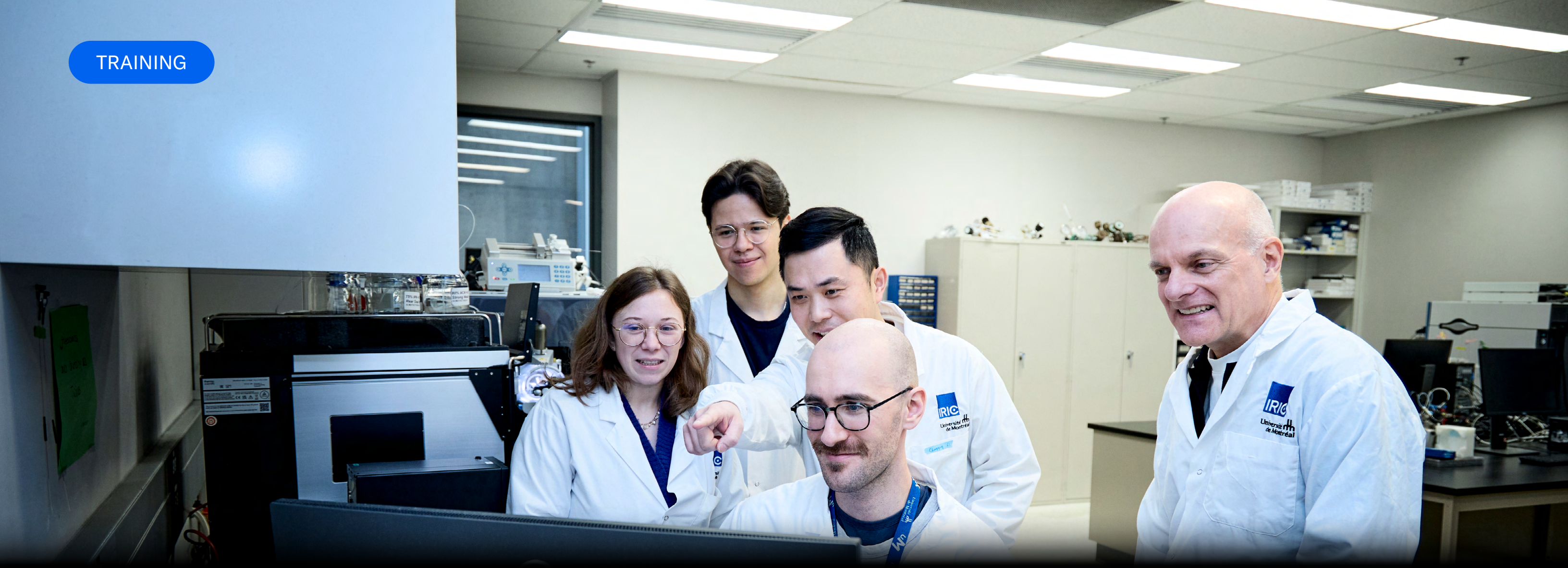
Preparation and observation of normal or tumor tissue in order to study their properties

Proteomics

Identification and quantification of proteins based on their chemical composition

Flow Cytometry

Sort and analysis of cell physical and molecular characteristics



A multitude of study programs available

IRIC welcomes M.Sc. and Ph.D. students from various programs of Université de Montréal's Faculty of Arts and Sciences, of Medicine and of Pharmacy.

Degrees offered

1-year intensive M.Sc (Molecular Biology)

2-year traditional M.Sc.

5-year Ph.D.

Programs offered

Biomedical Engineering

Biochemistry

Bioinformatics

Chemistry

Informatics

Microbiology and Immunology

Molecular Biology

Pathology and Cell Biology

Pharmaceutical Sciences

Pharmacology

Physics

Competitive financial support

Yearly base scholarship*

\$24,165 M. Sc.

\$26,448 Ph.D.

* Amounts adjusted annually

Systems Biology, a program unique to IRIC

Master's in Research

With internships

1 year

Research project in two laboratories

In-lab rotations as part of two of the research teams (Fall and Winter semesters)

Theoretical and practical courses during the Summer School (Summer semester)

With thesis

2 years

Research project in one laboratory

Theoretical and practical courses during the Summer School (Summer semester)

Ph.D.

With thesis

5 years

Research project in one or two laboratories

Some theoretical courses from the Summer School and others specific to the study program

In the age of genomics and proteomics, emerging technologies and new multidisciplinary approaches make it possible to address cancer as a whole and provide new hope for developing treatments for the disease. It was with a view to training the next generation of scientists for these new approaches that IRIC set up research training in systems biology, an option of the Molecular Biology program.

Summer School in Systems Biology

By its rich and dynamic programming, the Summer School will enable you to directly apply the concepts learned in class, develop your autonomy in the laboratory and become familiar with the equipment and scientific resources available.

Theoretical courses

Cellular and Molecular Biology of Cancer

Approaches in Systems Biology

Immuno-oncology: from the lab to the clinic

Practical in-laboratories courses

Practice in Molecular Biology

Bioinformatic Analysis

Functional Genomics

Biochemistry of Proteins

Personalized and integrated support unique at IRIC

The members of the Office of Academic Affairs are committed each day to supporting students in the development of their academic and professional path by ensuring personalized supervision. They also work on creating various activities allowing students to be open to career opportunities in life sciences.

Personalized support

Welcome days for new students

Follow-up meetings

Support in the preparation of applications for external scholarship competitions

Writing groups

Identification of pertinent resources

Student-student mentorship program

Academic and scientific activities

Professional and transversal skills / competences development workshops

“Academic” breakfasts

Networking events

Scientific days, symposiums, scientific conferences

Weekly presentations of the research work carried out by students and postdoctoral fellows

Student association

The IRIC Student Association (AÉIRIC) organizes various academic, scientific and social activities in order to allow students, postdoctoral fellows and other members of IRIC team to get to know each other better and contributes to generating cohesion and conviviality.

Academic and scientific activities

Integration nights for new students

Mental health awareness workshops

Scientific research popularizing events

“Tech-talks”

Social activities

Happy hours and BBQs

Pizza lunches

Bowling nights

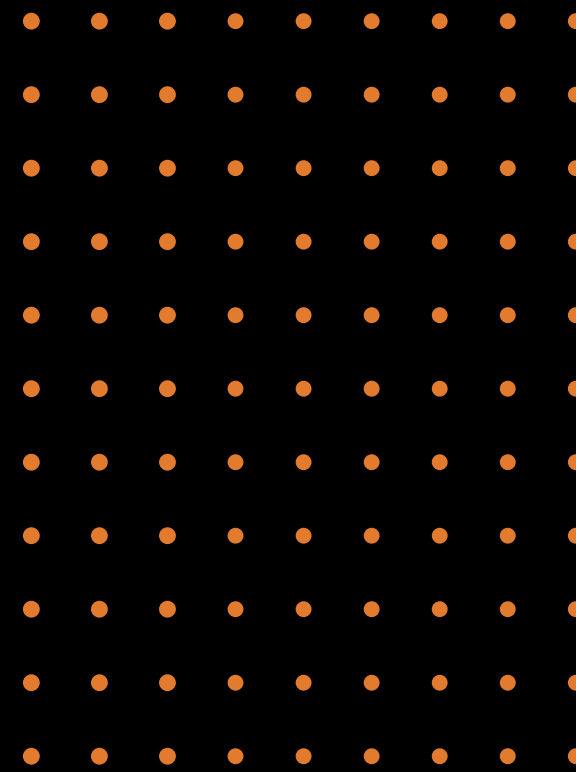
Sugar shack outings

Halloween and Valentine’s Day activities



Université de Montréal et du monde.

In addition to the resources offered by the Institute, the Université de Montréal offers students and postdoctoral fellows privileged access to a wide range of services and activities that contribute to the enrichment of their student life.



Socio-economic resources

Financial Aid Office
Scholarships
Study-work programs

Welcome and integration

Welcome and support for new students
Off-campus housing
International Students Office
International House
Humanitarian and community action
Cultural activities
First Peoples Centre

Student Centre for Success Support

Written Communication Centre
Educational and professional information
Learning support
Faculty support
Career advice
Support for students with disabilities

Support for students with disabilities

Medical consultation
Nursing and vaccination
Psychological consultation
Nutrition
Physiotherapy
Laboratory analyses

Centre for Physical Education and Sports of the Université de Montréal (CEPSUM)

Sports Complex
Kinesiology Clinic
CHUM and UdeM Sports Medicine Clinic

Submit your application

Apply to the Student Recruitment Event

Deadline: early March
Recruitment event: early June

Each year, 30 to 40 applicants from various countries are selected to take part in three days of recruiting in Montreal.

This is a unique opportunity to visit IRIC, its laboratories and core facilities, to meet and discuss with the Institute's Principal Investigators and students, and take part in one-on-one interviews with the Principal Investigators.

Following the visit, certain participants will receive a recruitment offer from one or several Investigators.

iric.ca > student recruitment event

Apply anytime

Deadline: none

Investigators are on the lookout for interns and students with a passion for scientific research who wish to actively participate in the advancement of knowledge. Please note that because the recruitment process at IRIC takes place throughout the year, there is no deadline for submitting your application.

iric.ca > submit your application

iric.ca/en

Office of Academic Affairs

academicaffairs@iric.ca

1 (514) 343-6111, ext 0612

IRIC - Université de Montréal

Pavillon Marcelle-Coutu

C.P. 6128, Succursale Centre-ville,

Montréal (Québec) H3C 3J7

IRIC

