RÉPUBLIQUE FRANÇAISE
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USC1370

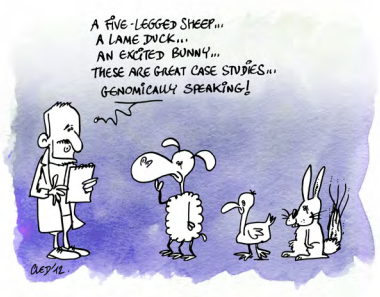
Institute for Functional Genomics of Lyon (IGFL)

Management
François Leulier, Director

Research topics
- Animal biology and its genomic bases
- Genomics of adaptation and evolution
- Development and regeneration mechanisms
- Integrative physiology

Key figures
- 27 researchers and equivalent
- 26 engineers and technicians
- 10 research teams
- 19 PhD students
- 10 post-doctoral students
- 16 short-term contract engineers and technicians

Keywords
- Genome
- Animal biology
- Development
- Evolution

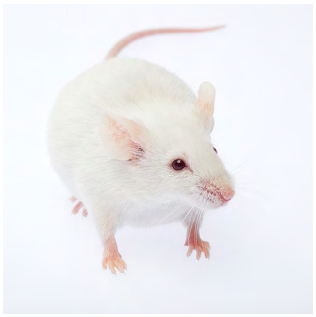


Mission and objectives

The Institute for Functional Genomics of Lyon (IGFL) is a contract-based unit (USC) jointly supervised by INRAE, Université Lyon 1, CNRS and ENS.

IGFL focuses on the science of discovery, "pure" research aiming to improve knowledge. The unit seeks to understand living organisms, particularly how the genome fashions animal development, physiology and evolution.





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USC 1370 specifically concerns the team working on the Functional Genomics of Thyroid Hormone Signalling. The team is studying the function of mouse brain thyroid hormone nuclear receptors.

The unit's work mainly involves:
- transgenesis and gene editing in mice;
- genomic analyses of nerve cells.

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IGFL Teams

- Comparative biology of development and regeneration
- Development and function of the neuromuscular system
- Functional genomics of thyroid hormone signalling
- Developmental epigenomics
- Biomodelling
- Genomics of development and evolution
- Integrative physiology of host-microbe interactions
- Ontogeny and molecular interactions
- Molecular control and epigenetics of biological rhythms
- Biology and pathology of extracellular matrices

Research

Research by the "Functional genomics of thyroid hormone signalling" team is organized into three major topics:

1) Understanding the mechanisms underlying the hormone's influence in the maturation and functioning of cortex neurons;

2) The hormone's influence on energy metabolism controlled by the hypothalamus;

3) The possible neurodevelopmental consequences of exposure to chemical substances, in particular pesticides suspected of acting as thyroid disruptors.

Collaboration and expertise

At local and national level, IGFL exchanges and collaborates with several units in ENS de Lyon and also with other institutions throughout France. IGFL also collaborates with private companies such as SILAB, Boehringer Ingelheim Animal health and Enyo-Pharma.

At international level, IGFL collaborates with many institutions: Uppsala University (Sweden), University of Toronto (Canada), University of Tokyo (Japan), University of Massachusetts Medical School (USA), Humboldt University and Heidelberg University (Germany), Indian Institute of Science Education and Research (India).

IGFL is also involved in the Marie Curie Training Network EvoCELL.

Scientific facilities

IGFL has several platforms and items of technical equipment: confocal and digital microscopy, stereomicroscopy, histology, high-speed sequencing, transgenesis and genome engineering in animals, animal-breeding facilities specially adapted to both the classic (zebra fish, drosophila and mice) and emerging (semi-aquatic insects and crustacea) species used in this work.

Teaching

IGFL is heavily involved in teaching activities at Université Claude Bernard Lyon 1 (UCBL) and at ENS de Lyon.