

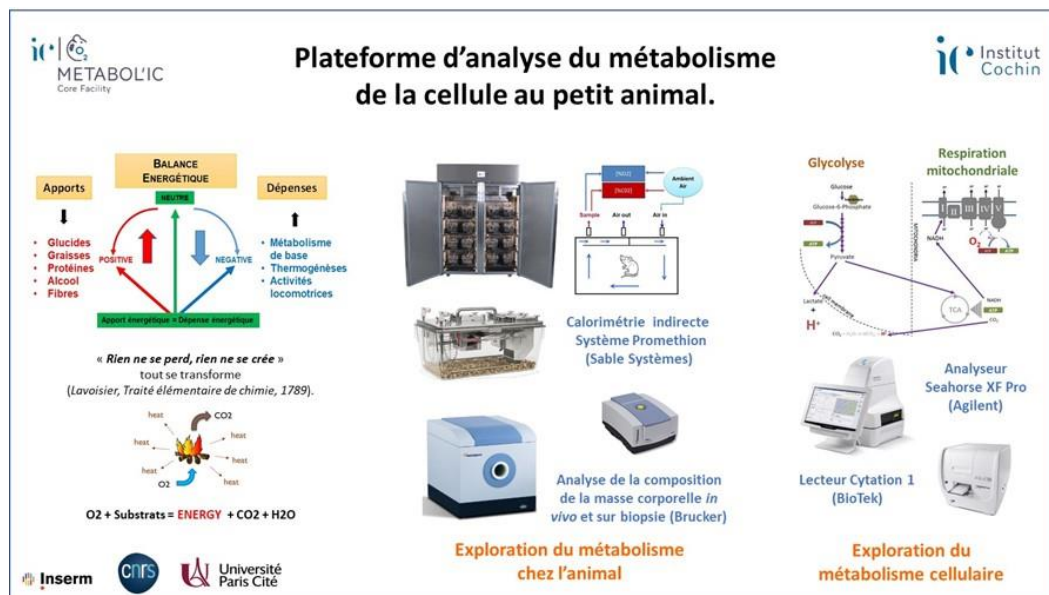
METABOL'IC newsletter

Institut Cochin platform

N°1 – 2024

Energy homeostasis in living organisms can be defined by the principle of conservation of matter: *"Nothing is lost, nothing is created"*, everything is transformed (Lavoisier, *Traité élémentaire de chimie*, 1789). The aim of the METABOL'IC analysis platform is to provide scientists with an exhaustive characterization of the components of energy homeostasis and, more specifically, to analyze metabolism from the cell to the small animal.

The platform is made of two poles: Animal and Cellular



Animal Pole: To date, we are equipped with an indirect calorimetry cage module (Promethion-Core), enabling us to quantify the various components of energy balance and related behaviors, a body composition analyzer (RMN Brucker) and an implant for measuring body temperature (Core Temperature) and a thermal camera (Testo 883) to determine the animal's surface temperature and its dissipation component.



The facilities are located in the Gallien animal house (Faculty Building).



Cell Pole: Here it is!!! You've been waiting for it: the SeaHorse XF pro system (Agilent) is now here, along with the Cytation module, which standardizes the number of cells per well. This system is used to characterize the bioenergetic profile of cells and for cell phenotyping. It is located in L2 room 5510, Faculty building.

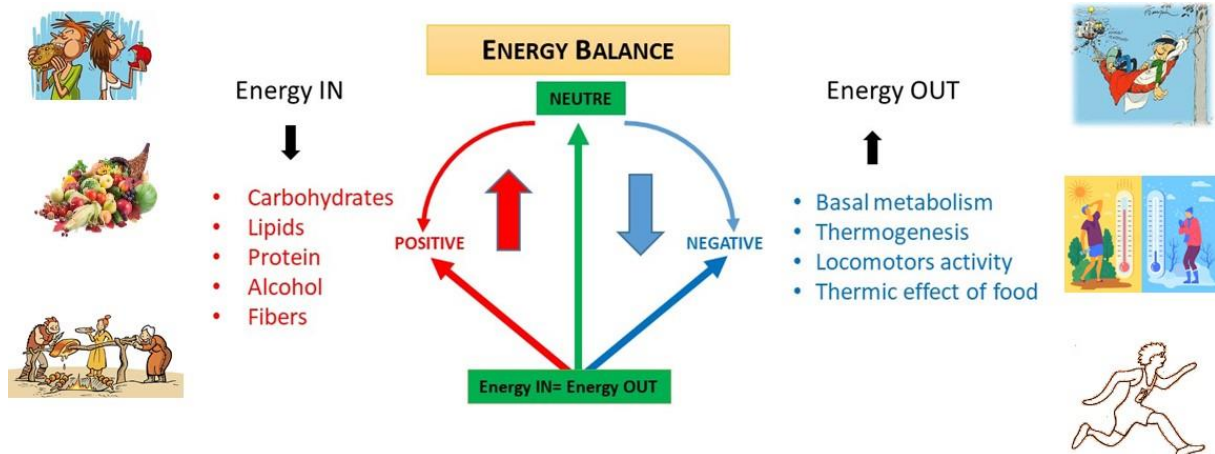


"The first handling at SeaHorse was a success!"

Exclusive picture of a researcher expressing her happiness at the new Seahorse camera. (Thanks Clotilde!!)

Principle

The platform's tools are aimed at understanding the pathophysiology of metabolic diseases (diabetes, metabolic syndrome, eating disorders, immunity and cancer, etc.).



The METABOL'IC platform team has solid expertise in the field of animal physiology and functional metabolic exploration in animals in vivo. This includes the physiological regulation of metabolic processes on the one hand and, on the other, the processes of disruption of energy metabolism, feeding behavior and its corollaries in pathophysiological conditions such as obesity and diabetes.

The development of scientific protocols is proposed in accordance with ethical and health regulations. In addition to our expertise in carrying out scientific projects, we also offer expertise in analyzing and interpreting data collected on various devices and other sites.

A request for use must be made in advance.

Make your requests here ► metabolique.u1016@inserm.fr

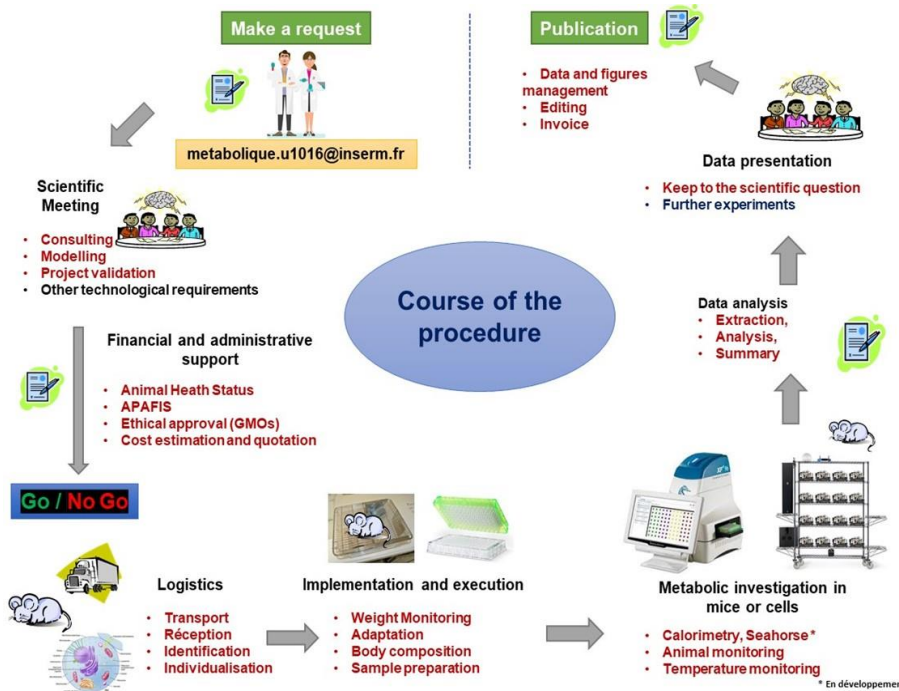
Process

ANTICIPATE your request.

The use of animal models is governed by French law, which derives from European Directive 2010/63 on the protection of animals used for scientific purposes.

Although non-invasive, indirect calorimetry analysis requires individualization of the animals.

Protocols requires a project authorization request (DAP, APAFiS Platform).



METABOL'IC can help you write up your DAP as part of your metabolic exploration..

This newsletter is the first, in what we hope a long series, published by the METABOL'IC platform. In forthcoming publications, we will look at more specific concepts such as the correct use of thermoneutrality, metabolic flexibility and questions relating to eating behavior...

We suggest you to complete your team meetings with a 30-minute presentation, followed by a discussion about the activities of the METABOL'IC platform.

Our aim is to raise awareness around our field of expertise, answer your questions about animal metabolism, present our current tools and services, gather your requests or needs, find out more about your area of expertise or simply share knowledge.

We can also organize discussions on various topics: the metabolic phenotype of the mouse, thermoneutrality, metabolic flexibility, the use of stable isotopes in vivo, preparing your ApAFiS dossier, etc....

Plateforme METABOL'IC

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