University of Zurich[UZH]

ZIHP

Zurich Integrative Rodent Physiology (ZIRP)

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ZIRP is an UZH technical platform & interdisciplinary core facility at the Irchel campus of the University of Zurich with the mission to support and strengthen research activities by providing infrastructure and know-how for the advanced analysis of rodent physiology. ZIRP is open to all researchers from the University of Zurich, the ETH, other research institutions and companies. ZIRP is currently supported by the ZIHP, the NCCR Kidney.CH and the Institute of Physiology, UZH.

Find out more: www.zirp.uzh.ch

You are not sure:

- how to organize your experimental animal work
- which procedure to use within your study
- how to set up a procedure or study part
- which parameters to analyze
- how to use or perform a technique
- how to assess the wellbeing of your animals
- how to get the most out of your *in vivo* data

ZIRP offers:

- state-of-the-art procedures & techniques used in rodents
- species-specific know-how in anatomy and physiology
- organization & maintenance of key infrastructure for *in vivo* studies
- trainings, mini-symposia, meet-the-expert sessions, demonstrations
- flexible, research - driven strategy with individually tailored solutions
- veterinary care & support with handling, sampling & applications
- support with data analysis, large network with other specialists

Sampling
Blood, urine, tissues, application techniques, perfusion, necropsy

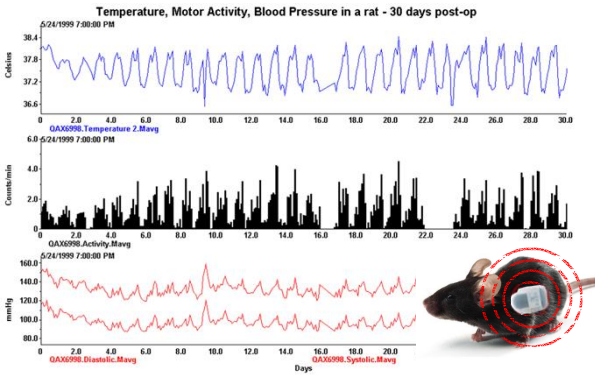
Surgery
Implantation of devices, exstirpation/modification of tissues or organs

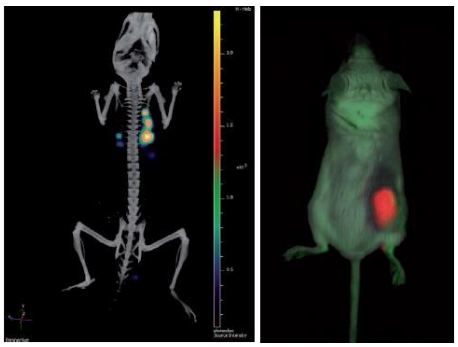
Imaging
Body composition, micro CT, optical imaging (bioluminescence & fluorescence)

Laboratory Analyses
Blood gases, chemical analyses of blood & urine, analyses of hormones, metabolites, drugs etc.

Metabolism
Metabolic cages, climate chambers, treadmill, running wheels, oxygen ↓↑, etc.

Radiotelemetry
Implantation of transmitters, data acquisition and analysis of physiological parameters





Examples of ZIRP platforms (from left to right): Biochemical platform for the analysis of small volume samples, radiotelemetry for the analysis of body temperature, motor activity and blood pressure in freely moving animals & in vivo imaging: Bioluminescence imaging of a mouse lung tumor with co-registration of 3D micro CT data, visualization of subcutaneous tumor vascularization with a targeted fluorescent agent.

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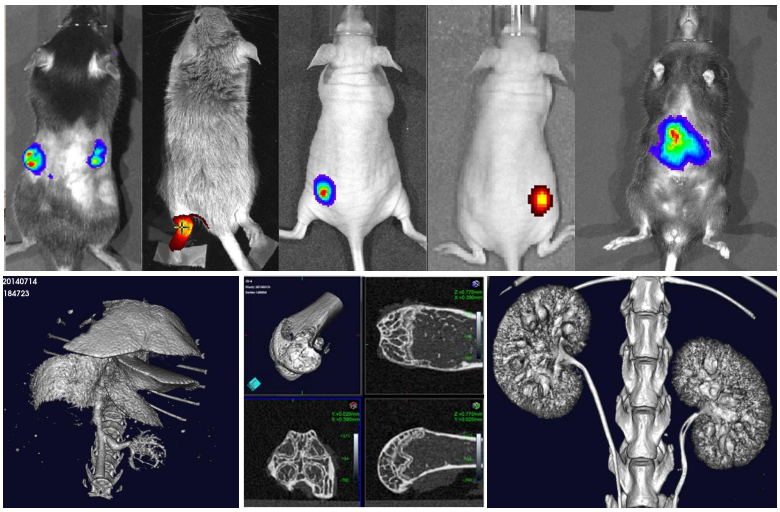
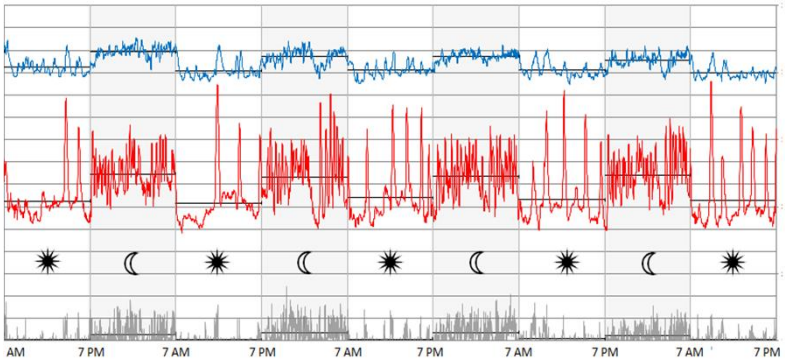
in vivo imaging

- micro CT
  - contrast enhanced
- optical imaging
  - bioluminescence
  - fluorescence
- body composition



radiotelemetry



body temperature, blood glucose level & activity in a mouse during day & night

surgical services

- implantations
  - cells, grafts
  - vascular catheters
  - transmitters
- removal of organs
- injections

and moreé

- key infrastructure
- advice & support
- hands-on training