



## Newsletter & Circular

April 2005

### FROM MOUSE TO PATIENT



#### HISTORY OF THE CENTER

The CIBM is the result of a major research and teaching initiative of the partners in the Science-Vie-Société (SVS) project, i.e. EPFL, UNIL, UNIGE, HUG, CHUV with generous support from the Fondations Jeantet and Leenards. The Center was formally created in Nov. 2004, the major instrumentation was ordered Dec. 2004.

#### MISSION AND AIM

The CIBM seeks to advance our understanding of biomedical processes in health and disease, focusing on mechanisms of normal functioning, pathogenic mechanisms, characterization of disease onset prior to structural damage, metabolic and functional consequences of gene expression, and non-invasive insights into disease processes under treatment. The research will use model systems ranging from transgenic animals to human subjects ("from mouse to man") and foster multi-disciplinary collaboration between basic science, biomedical science and clinical applications.

The overall aim is to advance state-of-the art imaging while at the same time addressing important biomedical problems in the context of a to-be-established research network of collaborative efforts, including, but not limited to, the 5 founding

institutions. The center is designed to enhance the synergies of the founding institutions by providing a single, cross-institutional organization, thereby allowing for optimal use of human and equipment resources. Initially the Center will focus on neuroscience, diabetes, brain diseases and cancer, but is not limited to these areas.

#### NEWS

The MR equipment was ordered in December 2004 (See description below). Time schedule of expected availability and (delivery), installation times can vary: 9.4 T – June (Mar) '05; 14.1 T – TBD (Mar) '06; 7T – TBD (Feb) '06; 3T CHUV – Jul (May) '05; 3T HUG – Apr (Feb) '06. Given the timeline of the order of the MR equipment and the parallel construction work in progress, the Center is in the process of establishing collaborative projects. (See the call for collaborations below).

#### *Ordered MR equipment*

- **Rodent scanners, horizontal bore (Magnex/Varian) :**  
14.1 Tesla  
9.4 Tesla (on loan for 2 years)
- **Clinical/Human MRI (Siemens) :**  
7 Tesla  
3 Tesla (CHUV & HUG)

#### STRUCTURE

The Center is comprised of Several Research Cores that share a common cause. Research cores are focused on specialized research support and technology development::

**Research and animal imaging core at the EPFL (R. Gruetter):** facility eventually containing ultra-high field MR equipment for humans and rodents, optical imaging and neurophysiological equipment and RF laboratory, with a dedicated animal housing facility and outpatient facility.

**Clinical Research Satellite in the Radiology Department, Geneva (F. Lazeyras):** A state-of-the art clinical 3 Tesla Siemens scanner with enhanced shim and multinuclear capabilities, 50% dedicated to clinical research and 50% to advanced clinical service.

**Clinical Research Satellite in the Radiology Department, Lausanne (R. Meuli):** A state-of-the art clinical 3 Tesla Siemens scanner with enhanced shim and multinuclear capabilities, 50% dedicated to clinical research and 50% to advanced clinical service.

**EEG brain mapping and neurophysiology core (C. Michel),** brain mapping in human brain with two satellite stations at HUG and CHUV.

**Phase contrast radiology core (G. Margaritondo),** ultra-high spatial and temporal resolution using high quality swiss light source in Villigen.

**Signal processing and image analysis core (M. Unser),** a facility to establish consistent imaging analysis, rapid data transfer between the three sites using a dedicated infrastructure with two satellite stations at HUG and CHUV.

*Announcing the start of research projects*

## ACCESS RULES FOR COLLABORATORS

The procedure establishing collaborations with investigators from the founding institutions essentially centers on the main mission of the CIBM, i.e. to enhance biomedical collaborations, facilitate and open new research areas and to foster new testable hypotheses in the context of technological advances. The Center acts as a collaborator in a research network with interested investigators who initiate projects in the context of important biomedical problems. The following steps are required for establishing a research protocol:

1. Informal contact with CIBM staff and investigators to discuss the project (May involve several discussions and refinements to the biological question asked/technological requirements)
2. Internal discussion within CIBM between core directors and associated staff
3. Formal protocol application (written) for the purpose of establishing required resources.
4. CIBM Director determines the resources needed in conjunction with core director(s).
5. All research results, equipment and resources installed or developed with support of the CIBM shall be indiscriminately available to researchers of the five founding institutions of the CIBM.

# Call for Pilot & Feasibility Projects

1. Principal Investigators of the five founding institutions can apply for support of collaborative research projects involving CIBM investigators, staff and resources.
2. Priority will be initially given to scientifically meritorious projects that (a) help drive the implementation of the Center (b) that are most compatible with the Core mission of the Center
3. Some projects will be considered for financial and material support in the framework of the Pilot & Feasibility program of the CIBM.
4. The procedure to establish a collaboration needs to be adhered to (see Access Rules above)

## Comité de Direction du CIBM (Steering Committee, CIBM)

Organ to which the Director reports to; approves major CIBM decisions; oversees access to resources, serves as liaison to the founding institutions.

Pierre Magistretti, President  
Giorgio Margaritondo  
Reto Meuli  
Francois Lazeyras  
Christoph Becker  
Rolf Gruetter (*ex officio*)



Center for Imaging in BioMedicine

[www.cibm.ch](http://www.cibm.ch) (temporary)



Lausanne & Genève

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