

## The Heart Lab Institute Cardio-Vascular Research Laboratory University of Lausanne Medical School

[www.cardio-vascular.chuv.ch/ccv\\_home/ccv-recherche.htm](http://www.cardio-vascular.chuv.ch/ccv_home/ccv-recherche.htm)

The Heart Lab Institute encompasses the full range of research in the fields of cardio-vascular and vascular sciences. Starting from the fundamental understanding of stem cells as precursors to cardiomyocytes and the mysterious workings of endothelial layers of vessels to the design, prototyping and testing of vascular connectors and access devices, the HLI seeks to profile itself as a center for reflection and innovation. Recognized as the leading center of cardio-vascular research in Switzerland, home to more than a dozen specialized authors, with more than 800 publications in world's renowned academic and specialized journals over the past decade, the HLI is supported by the Swiss National Funds for fundamental research and by the CTI (Commission for Technology and Innovation) for applied and industry related research. In addition, pre-clinical and clinical studies are carried out according to the highest ethical standards in collaboration with major industrial groups.

The HLI Laboratories have at their disposition the most advanced equipment including two fully equipped operating theatres, complete with invasive and non-invasive measuring apparatus, high speed computing, etc. Strategic alliances with other laboratories both on and offsite allow for access to other leading edge investigational tools such as state of the art 3 and 7 Tesla MRI, automated blood analysis laboratories and computerized tomography.

Some of the projects completed or currently underway include fully implantable artificial lungs, hearts, heart valves, sphincters, vascular connectors, cannula and catheters for vascular access, stem cell precursors to cardiomyocytes for post traumatic therapy as well as investigations into new molecules for pharmacology treatment of illness, artificial muscles based on nanomaterials and micro-projectors for real-time access to vital sign information for surgeons in the operating theatre..

A close collaboration with the CardioMet network of researchers [www.cardiomet.ch](http://www.cardiomet.ch) the HeartLab Workshop [www.heartlab.org](http://www.heartlab.org) and the annual surgery congresses of EACTS [www.eacts.org](http://www.eacts.org), ISMICS [www.ismics.org/annualMeeting.html](http://www.ismics.org/annualMeeting.html), and the ESCVS [www.escvs.org](http://www.escvs.org) will offer the artists potential international venues for exhibiting their creations.

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Lausanne, April 25 th, 2010