



GENEVA CARDIOVASCULAR RESEARCH

The Geneva Cardiovascular Research Group was created in 2003 by Dr. Beat Walpoth, Director of Cardiovascular Surgical Research with the support of Prof. Afksendiyos Kalangos, Chairman of the Service of Cardiovascular Surgery and Prof. Philippe Morel, Chairman of the Department of Surgery of Geneva University Hospital.

In the last four years a strong and professional group of scientists have come together with the aim of being a centre of excellence for cardiovascular surgical research, thus making the link between basic research and clinical application.

The research is mainly aimed at:

- Small and large animal physiology and chronic animal models
- Cardiovascular physiology and flow measurements
- Cardiovascular pharmacology and drug development
- Tissue engineering, gene therapy and angiogenesis
- Graft development and new devices
- Stem cell research and transplantation
- Cell-based myocardial regeneration
- Artificial organs and cardiovascular support
- Hypothermia research and international registry

Our main efforts go towards the creation of bio-engineered vascular grafts as well as cell-based therapies for cardiac regeneration. Our group has been actively involved in such research projects and local, national and international collaborations allow us to make progress in the above fields always keeping in mind the international principles for animal welfare.

These projects were able to be initiated thanks to the financial support from the Swiss National Science Foundation and the Swiss Heart Foundation. However, substantial funding will be required over the next ten years in order to develop tissue-engineered grafts or heart tissue able to replace or regenerate the patient's own arteries or heart.

To perform these experimental studies we have the following infrastructure at our disposal: one, if necessary, two large animal operating rooms. These rooms are equipped with state-of-the-art respiratory, hemodynamic, data acquisition, angiography, echography, flow measuring equipment and laboratory facilities. In addition, we have a small animal operating room with two micro-surgical stations including animal monitoring facilities to operate mice, rats and rabbits. Thanks to a professional central animal facility, acute and chronic small and large animal experiments can be performed and, for the well-being of our chronic larger animals, Geneva University has a farm for keeping these animals under optimal conditions. Furthermore, a fully-equipped cell laboratory with bench facility is at our disposal and many experts and other relevant resources are available at the University Medical Centre (CMU).

Finally, all this would not be possible without an entirely professional team composed of fully-trained cardiovascular surgeons, veterinarians, anaesthesiologists, cell-biologists, pathologists and laboratory technicians. Currently, our core team members are the following:

- Beat H. Walpoth, MD, PD, Director
- Suzanne Osorio-Da Cruz, DVM
- Erman Pektok, MD, Research Fellow
- Mustafa Cikirikcioglu, MD, PhD, Clinical Fellow
- Karim Djebaili, MD, FEBVS, Clinical Fellow
- Ebrahim Khabiri, MD, Staff Surgeon
- Stefanie Zimmerli, Laboratory Technician*
- Marc Bacchetta, Laboratory Technician*

*From the Department of Surgery

For more information concerning the Geneva Cardiovascular Research Group please consult the following web-site:

<http://www.surgical-research-geneva.ch/>

