

Facilities

Cardiovascular and respiratory physiology research for non-invasive studies in humans uses cardiac, vascular and transcranial Doppler ultrasound for real-time imaging of the circulation. Laser Doppler flowmetry is used for evaluation of skin perfusion and strain gauge plethysmography for limb blood flow.

Besides standard respiratory function apparatus, a state-of-the-art precision system has been acquired for manipulation of blood gases to simulate altitude conditions or mimic respiratory disease, along with a novel mechanical hyperventilation laboratory for manipulation of respiratory function.

Together with continuous measures of blood pressure, heart rate, respiration and gas exchange, a comprehensive assessment of cardiac performance (cardiac output, stroke volume, inotropic status), respiratory status, pulmonary haemodynamics and (micro)vascular function (blood flow, endothelial function, blood vessel reactivity, pharmacology, compliance and structure, capillary filtration) can be obtained under conditions of controlled exercise and environmental challenges.