RESEARCH DIRECTIONS OF THE LABORATORY

- Measuring human functioning and its limitations in the context of human health, employment, environment and other conditions, developing and maintaining of corresponding data bases, as well as development of methodical materials and training in this field
- Assessment of human movement, pose, and balance
- Assessment of human communication, including alternative communication skills and their development potential
- Assessment of eating disorders and eating habits
- Development of psychological assessment systems
- Use of assistant technologies in the rehabilitation process
- Assessment of effects of addictive substances (methcathinone, etc.) in human functioning
- Development of multi-professional rehabilitation models
- Development of tele-rehabilitation and tele-medicine technologies
- Improvement of prosthesis and orthosis manufacturing system
- Development of sensor method

FOSTERING OF COOPERATION

Within the framework of the Education and Youth Programmes *Lifelong Learning* and *Youth in Action* at the European Union Centre in the summer 2014 the event "BNF Riga Summer School for Rehabilitation Medicine" will take place aimed at development of cooperation between researchers, teaching staff, and students of the neighbouring countries.

The event attendees will include teaching staff, students, doctors, medical residents and doctoral students from 14 European countries.

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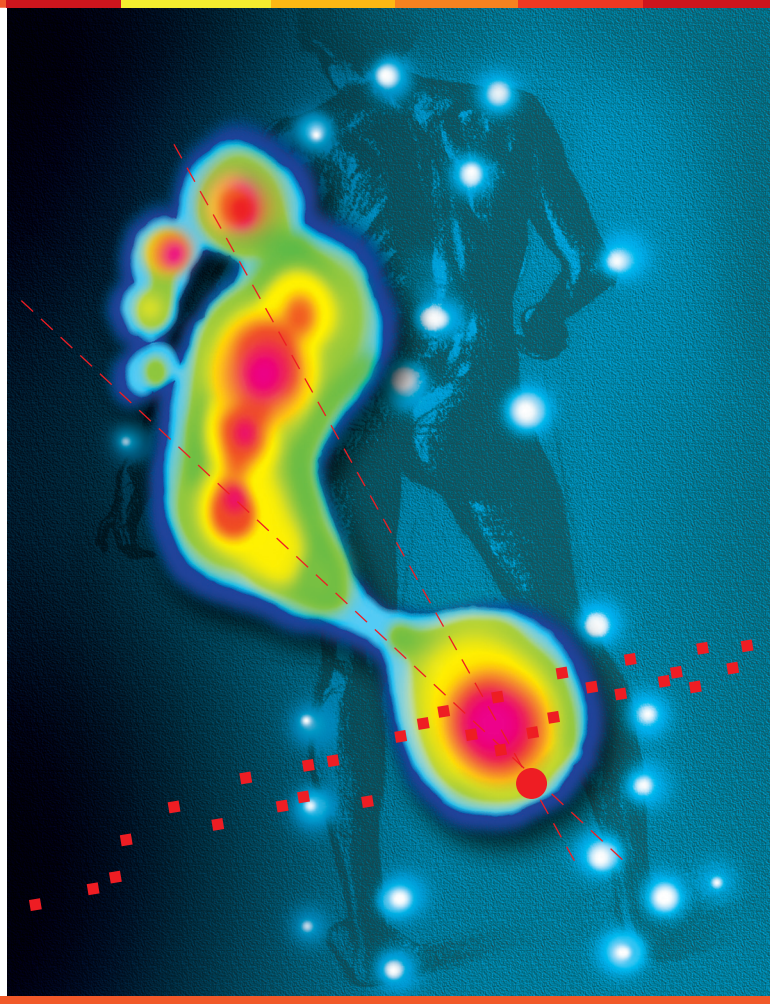
IEGULDĪJUMS TAVĀ NĀKOTNĒ

EIROPAS SAVIENĪBA

RĪGA STRADIŅŠ UNIVERSITY



REHABILITATION RESEARCH LABORATORY

REHABILITATION RESEARCH LABORATORY

In 2004 with the aim of coordinating research activities of the teaching staff, researchers, and students and for implementing projects in the field of rehabilitation the RSU Institute of Rehabilitation was established. In 2009, when the implementation of study programmes was fully taken over by the departments of the Faculty of Rehabilitation, the Institute was transformed into the Rehabilitation Research Laboratory.

The Rehabilitation Research Laboratory encourages interest of students in the research of rehabilitation; special attention is paid to the support of scientific and research activities of the new doctoral students.

The Laboratory has developed long-term productive cooperation with rehabilitation related organisations in Latvia, as a result it is possible to involve in researches various groups of patients.

THE LABORATORY WORKS WITH THE FOLLOWING PATIENT GROUPS:

- Patients with extremities amputation
- Patients with burns
- Patients with sporadic and hereditary orthopaedic diseases, including spine deformation, scoliosis, and other problems of musculoskeletal system
- Children with cerebral palsy
- Patients with stroke, head injury, after surgery, and neurological complications or in case of disorders
- Patients with spinal cord damage
- Oncology patients
- Patients with swallowing problems
- Methcathinone-addicted patients
- Patients with psychological problems

SERVICES

ASSESSING FUNCTIONAL STATUS OF THE RESPIRATORY SYSTEM

- Measuring lung volume and functional capacity parameters
- Method – spirometry
- Equipment – spirometer Micromedical USB with computer software Spida

ASSESSING HEALTH OF THE CARDIOVASCULAR SYSTEM

- Assess health of the cardiovascular system under increasing
- Method – veloergometry
- Equipment – Veloergometer "Aquagym"

MEASURING TISSUE-BLOOD GAS EXCHANGE

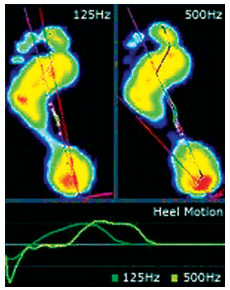
- Analyse the volume of oxygen consumed and carbon dioxide produced in every inhalation and exhalation under physical load
- Method – analysis of exhalation gas
- Equipment – gas analyser Metamax

DETERMINING ACOUSTIC PROPERTIES OF THE EXTREMITY BONE TISSUE

- Determine changes in bone elasticity and strength
- Method – ultrasonic velocimetry
- Equipment – ultrasonic osteodensitometer Sunlight Omnisense 7000 S

MEASURING WEIGHT DISTRIBUTION ON A FOOT

- Assess discretization of foot movement, distribution of weight on foot (temporal and spatial parameters)
- Method – plantography
- Equipment – RS 3D Scientific 2m platform Footscan



DIAGNOSIS OF NEUROLOGICAL DAMAGE AND MUSCULAR DISEASES

- Establish the level of neurological damage and primary muscular diseases
- Method – electromyography (EMG)
- Equipment – biomonitor ME 6000