

EA 7424 - UCBL 1 / UJM / USMB

Faculty: UFR Sciences and Mountain

PhD school: Science and Engineering of Systems, of Environment and of Organisation (SISEO)

FIELDS OF TRANSVERSAL SKILLS

Mountain studies, Tourism, Sport, Health
• Fundamental Science, Earth sciences and Environment • Technologies: Mechatronics, Energy conservation-Civil Engineering, Digital technologies

KEY WORDS

Physical and sports activities • Biomechanics
• Motor control • Fatigue • Handicap • Man / environment interface • Man / equipment interface • Muscle • Physiology • Health and therapy through exercise

SECTORS

Sport • Health • Ergonomy • Innovation • R&D
• STAPS

PRESENTATION

The inter-university Laboratory of Human Mouvement Biology in Saint-Étienne (UJM), Université Claude Bernard Lyon 1 and Université Savoie Mont Blanc (USMB) was created in January 2016. Its originality resides in the fact that it combines the skills of professors and researchers from different but complementary disciplines (medicine, sciences and technologies, STAPS – sciences and techniques of physical and sports activities) working on common themes linked to sport, health and motricity.

RESEARCH THEMES

LIBM's research work focuses on 5 themes:

1. Vascular biology and red blood cell biology
Hemoglobinopathies and atherosclerosis
2. Deconditioning and reconditioning muscular
3. Mental processes and sensory motor control
4. Interaction human / equipment and human / environment
5. Sport and handicap performance and prevention

KEY DATA*

- **46** professors-researchers and doctors (9 form l'Université Savoie Mont Blanc)
- **4** administrative and technical staff
- **28** PhD students

* Academic year 2014-2015

SPECIFIC EQUIPMENT AND EXPERTISE

- Integrative metabolic measurements (gas exchanges, concentrations of metabolites)
- Biological measurements (histology, optical microscopy, biochemistry)
- Electromyographic measurements
- Mechanical and biomechanical measurements and ergometry

PHD STUDENTS SKILLS

- Evaluation of motricity, physical aptitude and the effects of training or reconditioning people who are sedentary or sporty, old or young, healthy or physiopathological (malnutrition, metabolic syndrome, COPD, sickle-cell anemia, hemiplegia). According to their thesis work, students' skills are biological, biomechanical, physiological and/or neurophysiological.

NETWORKS / PARTNERSHIPS

Academic cooperations

- University of California Berkeley (USA)
- University of Calgary (Canada)
- Laval University (Canada)
- Academy for Sports Excellence, Doha (Qatar)
- Yaoundé 1 University (Cameroon)
- Norwegian Sport School (Oslo)
- Porto University (Portugal)

Institutional cooperations

- Sporaltec Cluster
- IRMIS (Regional Institute of Sports Medicine and Engineering)
- Région Rhône-Alpes (CIBLE and FEDER Programmes)

Industrial cooperations

- ALTEOR • CEVRES • MAVIC • QUECHUA • SALOMON
- SEB • SIDAS • SIGVARIS • SOFILETA • TEFAL • THUASNE

INTERNATIONAL RELATIONS

- Professor-researchers on placement at University of California, Berkeley (United States) for 18 months
- Professor-researchers on placement at Laval University (Canada) for 6 months