LIBM

Inter-university Laboratory of Human Mouvement Biology

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, Heath ■ 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 ■ Neurophysiology ■ Health and exercise therapy

SECTORS

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

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 (medecine, 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. **Interactions human / equipment and human / environment**
5. **Locomotor system: performance, pathology and prevention**

KEY DATA*

46 professors-researchers and doctors (**9** from Université Savoie Mont Blanc)

4 administrative and technical staff (**2** from Université Savoie Mont Blanc)

28 PhD students (**8** from Université Savoie Mont Blanc)

* Année universitaire 2017-2018

SPECIFIC EQUIPMENT AND EXPERTISE

- Integrative metabolic measurements (gas exchanges, concentrations of metabolites, tissular oxygenation)
- Biological measurements (histology, optical microscopy, biochemistry)
- Electrophysiologic and electromyographic measurements
- Mechanical and biomechanical measurements and ergometr
- Motor control and posture control

PHD STUDENTS SKILLS

- Evaluation of motor function, physical ability and effects of training or reconditioning in trained/fit or sedentary subjects, old or young, healthy or physiopathologic (malnutrition, metabolic syndrome, COPD, sickle cell anemia, hemiplegia). According to their thesis work, students' skills come fall within the area of biology, biomechanics, physiology and/or neurophysiology.

NETWORKS / PARTNERSHIPS

Academic cooperations

- Universities of Clermont-Ferrand, Créteil, Grenoble, Le Mans, Lyon, Marseille, Nice, Paris 5 et 6 Poitiers, Saint-Etienne, Rennes,
- INSEP
- Laboratoire SYMME (USMB

Institutional cooperations

SFR CRIS ■ Sporaltec Cluster ■ IRMIS (Regional Institute of Sports Medecine and Engineering) ■ Région Auvergne Rhône-Alpes ■ French skiing and rowing federations ■ EPI-Santé (73) and CEPART (Center of articular evaluation and prevention)

Industrial cooperations

CEVRES ■ MAVIC ■ QUECHUA ■ SALOMON ■ SIGVARIS ■ THUASNE

INTERNATIONAL RELATIONS

Belgium ■ Canada ■ Croatia ■ Italy ■ Norway ■ New-Zeland ■ Quatar ■ Roumanie ■ UK ■ USA ■ Slovénie ■ South Africa ■ Spain ■ Switzerland

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