MuSkLE
PhD programme
Building, maintaining and repairing the functional locomotor system

Co-funded by the European Union

PhD Position 03 job vacancy

Reference:	**PP03**
Title:	**Deciphering the mechanically-driven signalling in articular cartilage and the consequences for the cartilage homeostasis**
Hiring institution:	**UCBL**
Location:	University Claude Bernard Lyon 1, Villeurbanne, France.
Start date:	As from 01st January 2027
Duration:	36 months
Application deadline:	6th May 2026

Job description

Objective:	**The recruited doctoral fellow (DF03)** will decipher how articular chondrocytes respond to mechanical forces and delineate the role of α-10 Integrin. He/she will investigate the role of integrin α10β1, an integrin receptor most abundantly expressed in cartilage, and which could be targeted in skeletal pathologies such as OA. We developped a 3D agarose-based chondrocyte culture allowing us to analyze the effect of dynamic compression on signaling pathways. Preliminary results obtained with mouse costal chondrocytes indicate the feasibility of RNAseq and phosphoproteomic studies. Although recent studies indicate mechanosensitive ion channels (TRPV4, Piezo-1/2) as crucial responders for mechanical stress, conditional ablation of the encoding genes does not significantly change the severity of osteoarthritis (OA) in a mechanical murine model induced by destabilization of the meniscus. Animal model of OA will also be employed to verify the involvement of the potential candidates previously identified and using spatial omics approaches. The project will uncover new mechanical effectors of compression stress notably through the α-10 Integrin receptor, providing a fundamental understanding of cartilage mechanobiology, and opening new strategies to treat pathologies such as OA.
Collaborations and co-supervisions:	The PhD project will be in collaboration with other French/German collaborators.
Supervisors:	Jérôme Lafont – Jerome.lafont@univ-lyon1.fr
Place of work:	Laboratory ot tissue Biology and Therapeutic Engineering (LBTI) - CNRS UMR 5305, Lyon France
Required degree	Master's degree or equivalent in cell and molecular biology, skeletal biology and physiology
Skills/Experience:	Mononlayer and 3D cell culture, molecular biology (RNAi, CrispR..), imaging (confocal, histology), omics data analysis
Keywords	Mechanotransduction, articular cartilage, chondrocyte physiology, inflammation and extracellular matrix

Mandatory requirements

Eligibility:

The doctoral fellow:

- should not have resided or carried out his/her main activity (work, study) in the country where he/she is being recruited, i.e., France, **for more than 12 months in the 3 years before the application call deadline,** unless this time was part of a compulsory national service or a procedure for obtaining refugee status under the Geneva Convention.
- must be **a doctoral candidate** (not already in possession of a doctoral degree at the date of the application call deadline).

Languages:

Oral and written skills must meet the standards of academic English used in international research.

Job details

Type of contract:

Full time position

Gross salary:

The monthly **living allowance, including employer and employees' social charges, is €3,500.** This amount corresponds to a gross monthly salary estimated to €2,440 and to an estimated net monthly salary before income tax of approximately €1,976.

On top of the monthly salary, the doctoral fellow will receive a **mobility allowance,** including employer and employees' social charges of €4,752 over the 36 months of the working contract. This amount corresponds to a gross monthly allowance estimated to €92 and to an estimated net monthly allowance before income tax of approximately €74.

Other benefits:

Social Protection:
The fellow will benefit from **full social security coverage**, including health insurance, unemployment insurance, and pension contributions. He/she will also have access to occupational health services (*médecine du travail*), as required by French labour law.

Additional Insurance:
The fellow may choose to subscribe to complementary health insurance plans, at affordable rates (approximately €70 *per* month), of which 50% is paid by the employer.

Paid Leave:
The fellow is entitled to up to **33.5 days of paid leave annually** (for 35 hours worked per week), in accordance with national labour law, and will enjoy the same employment rights as other public-sector employees.

Relocation assistance via Espace Ulys (EURAXESS center of the Université de Lyon): the candidate can be provided with special relocation assistance and help for immigration and administrative, accommodation, healthcare and integration formalities.

Transport:
The fellow benefits from significantly **reduced fares on public transport**, available in all partner cities. Additionally, the host institution will cover 50% of the monthly transportation costs.

Sports and culture:
The fellow will enjoy the cultural environment provided by the Lyon 1 campuses, where numerous exhibitions and activities open to the general public are organised throughout the year. The fellow may play his/her favourite sport in the largest University Sports Association in France, where over 30 activities are on offer year-round through the Sports & Physical Activity University Department. The fellow may also join one of the 70 student associations that unite the University.