

Challenge 3: Personalised mobility as a key factor in health

Objective: Analyze the mechanisms driving or impeding individual mobility and propose optimization strategies

Individual mobility is nowadays considered a **key factor of human health**. Preserving an active locomotor system as long as possible thus has a major influence on the **quality of human life as well as on morbidity/mortality**. It becomes even more critical with the increased life span and the gradual increase in elderly people suffering from chronic diseases, some of which affect **t h e i r m o b i l i t y .**

To address the issue of individual mobility we consider that an **integrative approach** combining **exploration of both the muscular system and various intervening factors on locomotor apparatus and function** needs to be considered.

Topics developed by the Clermont-Ferrand joint research units working in the field of biology and health offer the opportunity to develop this approach with originality. Indeed these joint research units allow associating **recognized skills on the study of the muscular development and metabolism** on one hand and on **factors likely to modify locomotor capacities** (pain, nutrition, epigenetic and dysbiosis) on the other hand. This association confers thus a real specificity to the site and allows developing a distinctive research that should lead to innovative therapeutic **p e r s p e c t i v e s .**

But, beyond the pure research dimension, the theme of Challenge 3 also involves care, the socio-economic sphere and society as a whole. Thus **partner institutions - the CHU and the CRLCC** - have committed to including mobility aspects to their care activities so as to enable their patients to benefit from this approach. **Close partnerships will be pursued with companies** that are members of health clusters so as to enable quick and targeted valuation of research works and in the long run offer new food formulations, new drugs, probiotics or strategies for improving mobility. Finally, at **societal level**, several initiatives (in association with Clermont Auvergne Metropole and various partners) will allow the setup of awareness campaigns and incentive programs to trigger lifestyle changes towards higher mobility.