**Topic 1: Cellular senescence to prevent or treat musculoskeletal ageing**

Supervisor: [Janne Elin Reseland - Institute of Clinical Dentistry (uio.no)](https://www.odont.uio.no/iko/english/people/aca/jreselan/index.html) has been working on different aspects of adipokines, expression and effects, since 1996, and was instrumental in identifying the expression of adipokines (leptin, adiponectin and resitin) in bone.  Prof. Reseland has been working with primary human bone cells, bone remodelling and quality since 2001.

Area of research for the MSCA candidate - Research conducted over the past decade has increased our knowledge about aging phenomena significantly. Two mechanisms have emerged as pivotal for the aging process: the number of times a normal human cell population will divide before cell division stops and cellular senescence, an irreversible cell cycle arrest. Targeting cellular senescence represent a novel therapeutic approach to prevent and treat potentially multiple age-related diseases. Age-related pathologies and molecular relationship with aging are found in periodontitis, Alzheimer’s disease, cancer, osteoarthritis, osteopenia/osteoporosis, etc. We are looking for a candidate with:

* strong interest in cell and molecular biology,
* experience with cell culturing,
* skills in the following laboratory methods: qPCR,
* and immunohistochemistry
* has good team-working skills as well as an ability to work independently
* has availability to go abroad for short-term scientific missions

The aim of this project will be to establish in vitro models for cellular senescence test the effect of various drugs in these models and collaborate in an ongoing project in collaboration with Mayo Clinic College of Medicine.