

Open position:  
**Master Thesis (m/w)**

**„ The influence of cellular senescence on tissue formation  
 and rescuing effects of mechanical loading ”**

We are currently looking for a motivated student of biology, biochemistry, biotechnology or other applicable disciplines willing to perform his master thesis within the field of cellular biomechanics and regenerative medicine. The position is available from the 1<sup>st</sup> of March 2017 onwards.

Background and scope of the work: Regenerative medicine aims at the restoration of tissues by supporting endogenous regeneration processes. However, with an aging society, regeneration under compromised conditions is an important clinical challenge.

It has previously been shown that the extracellular matrix composition and mechanical properties change during aging with consequences on the cell function. With this project, we try to simulate tissue formation processes *in vitro* by using macroporous 3D biomaterials and induce cellular senescence by p16/p21 overexpression as a feature of aging. The task will be the cultivation of primary human cells in a 3D scaffold and subsequent analysis of specific gene expression patterns, especially of extracellular matrix forming and remodelling proteins. With this we hope to better understand how altered structural and biochemical settings evolve which might lead to novel strategies to foster healing in aged individuals.

What we provide:

- ✓ Training and support in an interdisciplinary, cutting edge research field
- ✓ A friendly, collaborative and communicative environment
- ✓ A supportive team

What we expect:

- ✓ Enthusiasm and strong motivation
- ✓ An open mind
- ✓ Team working capabilities
- ✓ Robust cell culture experience
- ✓ basic experience in gene expression analysis (q-RT-PCR), if applicable

**We can offer funding as a student assistant on a 40 hours/month basis for up to 6 months.**

If you are interested, please contact: Erik Brauer ([erik.brauer@charite.de](mailto:erik.brauer@charite.de)), Sophie Schreivogel ([sophie.schreivogel@charite.de](mailto:sophie.schreivogel@charite.de)) and/or Daniela Mau ([daniela.mau@charite.de](mailto:daniela.mau@charite.de)).