

**Laboratory:** Biomaterials and Tissue Engineering

**Speaker:** Jana Musílková

**Topic:** Bioengineering: Stem-cell differentiation for soft and hard tissue constructs

**Annotation:**

The aim is construction of replacements of bone tissue and blood vessels. A particularly promising approach is the combination of 3D scaffolds made from biodegradable materials, seeded with differentiated or partially differentiated stem cells. Polymeric scaffolds intended for bone tissue engineering will be mineralized or enriched with inorganic component of the bone matrix. To mimic the *in vivo* conditions the system will be exposed to appropriate dynamic culture conditions in dynamic bioreactors.