

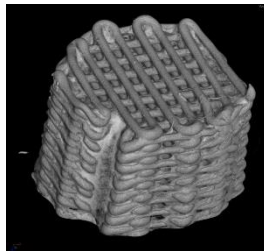
- **Complete denomination:** Tissue engineering group and histology lab
- **Location (city, country):** Gent, Belgium
- **Director:** Prof. Dr. Maria Cornelissen, postdoc Dr. Heidi Declercq
- **Contact person in NEWGEN:** Dr. Heidi Declercq – heidi.declercq@ugent.be
- **Working Group involvment:** WG4
- **Staff:** 3 postdocs, 5 PhDs, 4 technicians
- **Research topics:**
 - Biofabrication of complex and/or vascularized tissues
 - Bioactive meniscus via bio-plotting
 - Hepatocyte encapsulation for liver tissue engineering
 - Cardiac and osteochondral tissue engineering
 - Stem cell expansion and differentiation
- **Researchers expertises:**
 - Cell/biomaterial interactions
 - Stem cell differentiation

➤ Osteochondral tissue engineering

➤ Cell/biomaterial interactions

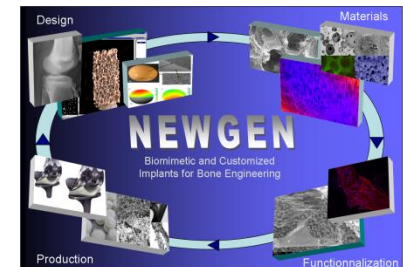
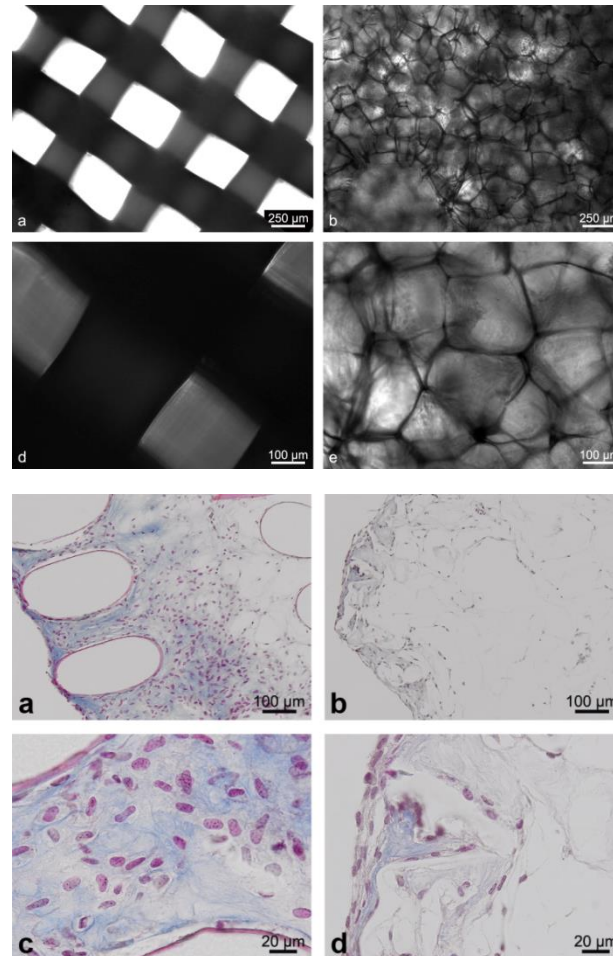
- Colonization
- Extracellular matrix formation
- Differentiation

❑ Bioplotted versus conventional scaffolds



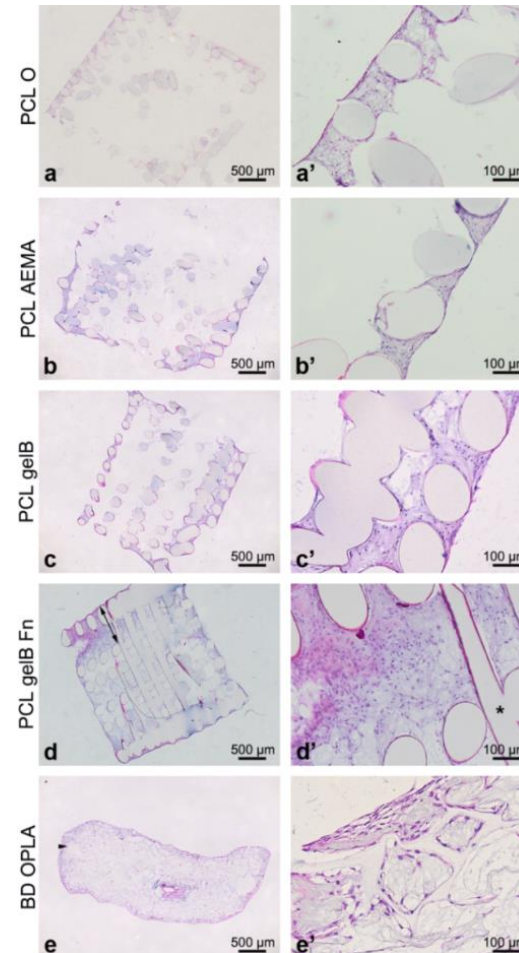
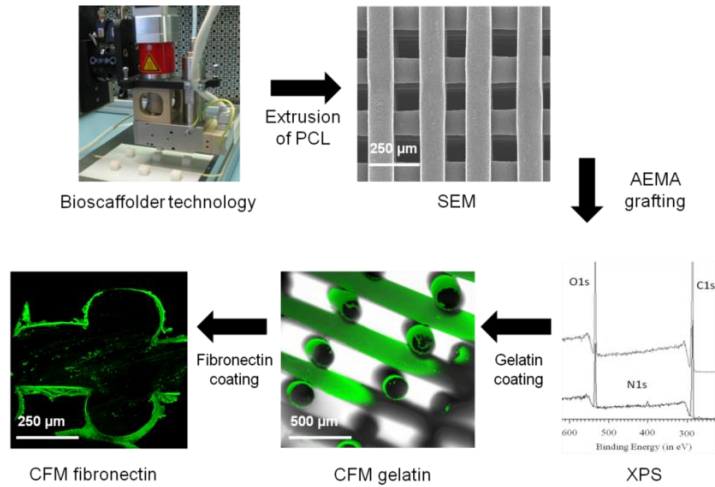
❑ Influence of scaffold design and surface modification

Bioplotted Conventional

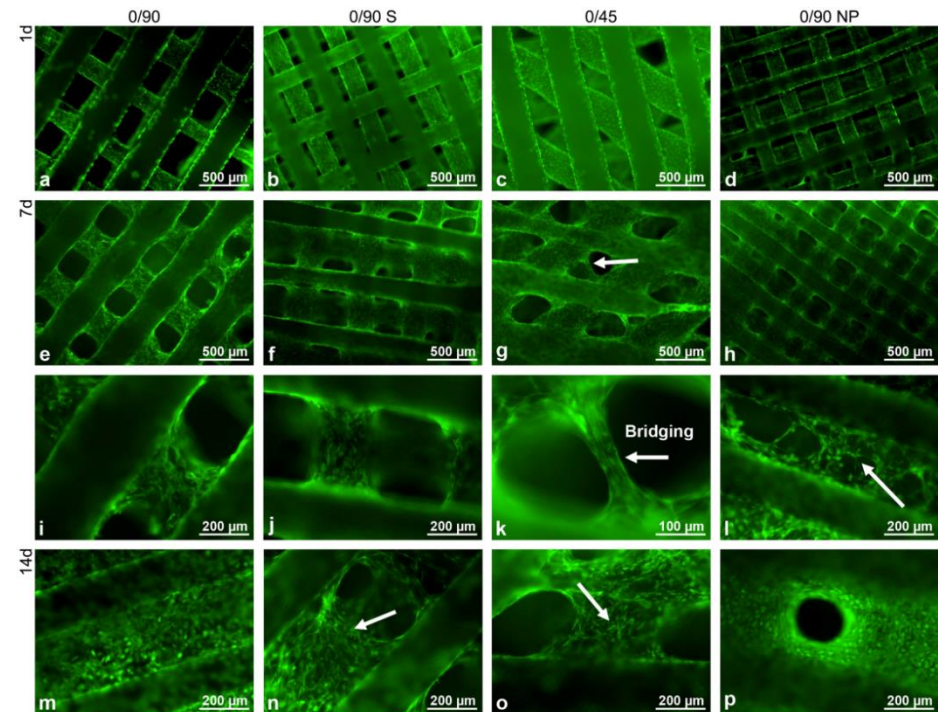
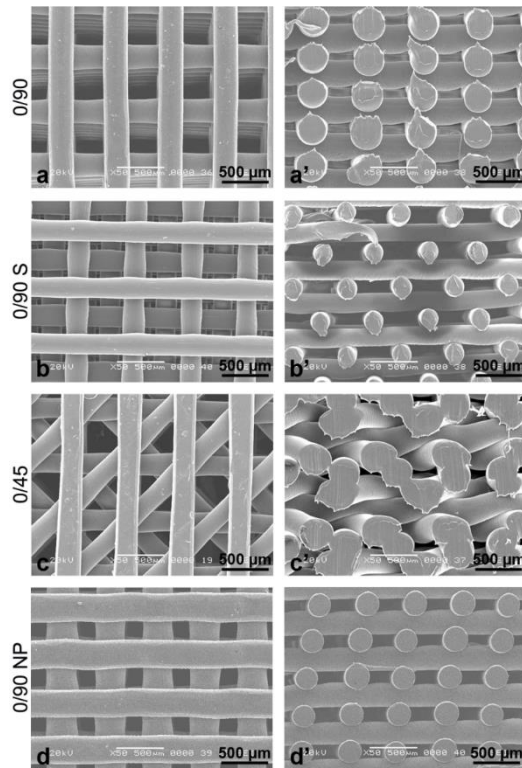


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➤ Influence of surface modification



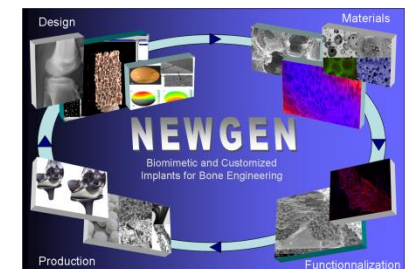
➤ Influence of scaffold design



Earlier cellular bridging in compacted scaffolds

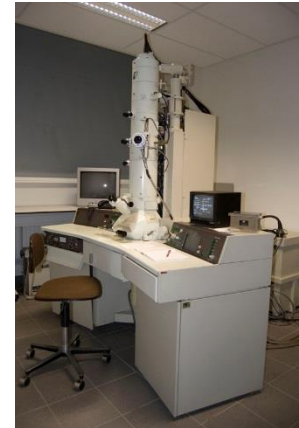
➤ Cell culture

- Cell lines, primary cells, stem cells (MSC-bone marrow, m and h ESC, 'waste' cells (umbilical cord, fat derived SC)
- Static and dynamic culture
- Cytotoxicity/biocompatibility of biomaterials
- Cell/biomaterial interactions
- Analyses: spectroscopic, qRT-PCR,...



➤ Morphology:

- Light, fluorescent and electron microscopy
- Virtual microscopy
- Immunohistochemistry, in situ hybridisation, Western blot



➤ Bioplotter

- In cooperation with Prof. P. Dubruel (PBM group, Ghent University)

