



**Complete denomination:** Division of Biophysics and Medical Technology,  
Department of Physics, Norwegian University of Science and Technology

➤ **Location (city, country):** Trondheim, Norway

➤ **Director:**

➤ **Contact person in NEWGEN:** Prof. Pawel Sikorski ; Dr. David Bassett

**Working Group involvement:** Sikorski (WP1) ; Bassett (WP1, WP4)

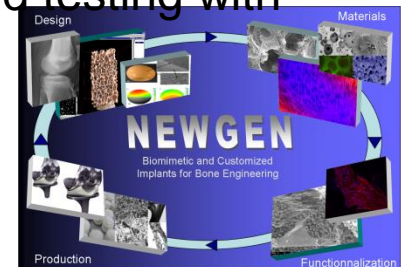
**Staff:** Prof. Pawel Sikorski ; Dr. David Bassett, 1 PhD student (+ extensive collaboration network at NTNU)

➤ **Research topics:** biomineralization, biolymers, hydrogels, crystallization, materials for tissue engineering, nanotechnology.

➤ **Researchers expertise:** Synthesis and characterization of organic/inorganic nanocomposites based on hydrogels. Material characterization and testing with relevant cell systems.

**NTNU**

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**COST Action MP1301**

# ALGINATE SCAFFOLDS

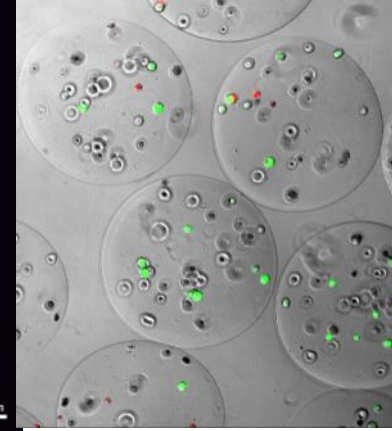
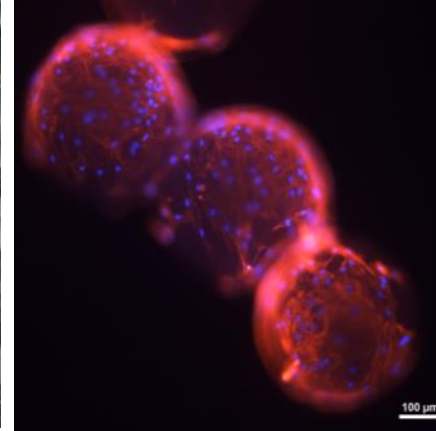
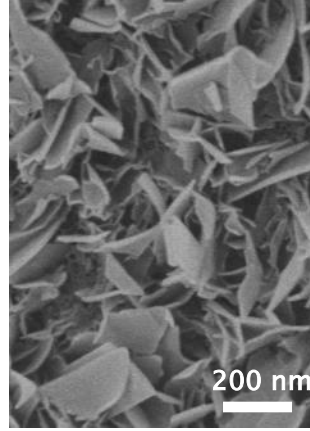
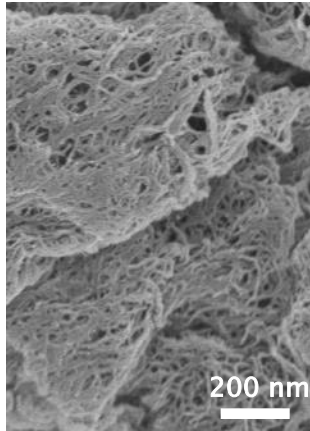
Study the formation of biominerals within alginate hydrogels

Alginate:

Nano-  
structured

Mineralisable

Cell compatible

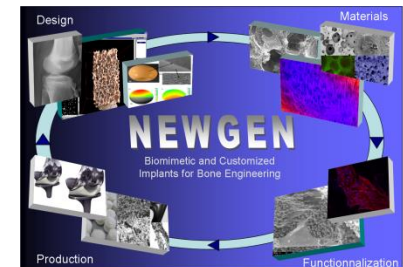


Control of:

- Alginate chemistry
- Mineralising potential
- Nanostructure

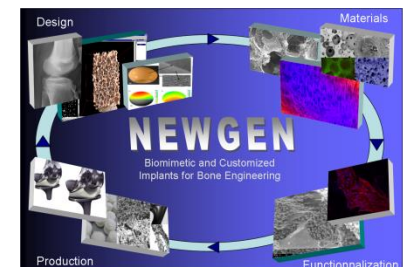
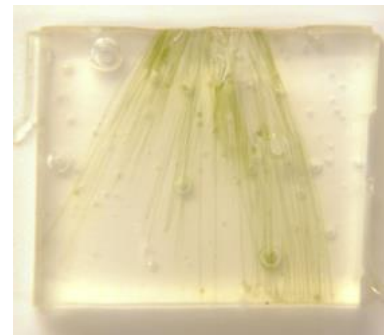
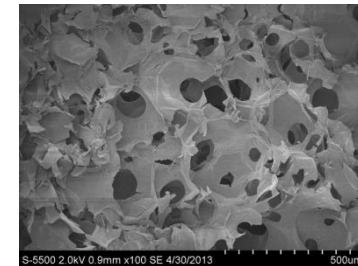
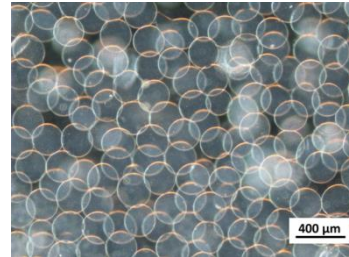
Applications:

- Cell scaffolds
- Controlled release matrices



Physical processing of alginates into various structures:

- 
Beads
- 
Fibres
- 
Foams
- 
Films
- 
Channels





## Material characterisation (mostly central facilities at NTNU):

- confocal Microscopy and AFM (<http://www.ntnu.edu/nt/mint/infrastructure>)
- NTNU NanoLab. Micro- and nano-fabrication and characterization laboratory, UV and e-beam lithography, SEM, Focus Ion beam/SEM tomography. (<http://www.ntnu.no/nanolab>)
- TEM (<http://www.ntnu.edu/geminicentre/tem>)
- powder XRD (<http://www.ntnu.no/materialteknologi/powder-diffraction-lab>)
- cell culture facilities for in vitro testing
- spectroscopy, EPR, NNM, UV-VIS, etc

