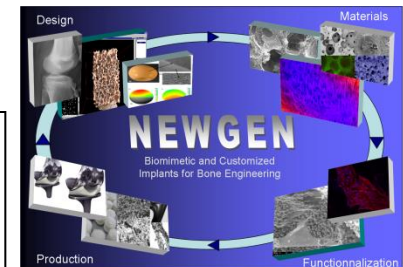




- **Complete denomination:** DBRU, Institute of Dentistry, University of Liège
- **Location (city, country):** Liège, Belgium
- **Coordinators:** Pr Amélie Mainjot- Pr France Lambert
- **Contact person in NEWGEN:** Pr Amélie Mainjot- a.mainjot@chu.ulg.ac.be
- **Working Group involvement:** WG1
- **Staff:** Institute of Dentistry (5 departments, 7 professors, clinical and scientific staff)
- **Research topics:**
 - Ceramic materials for dental prostheses and dental implant components.
 - Ceramic materials for alveolar bone regeneration and preservation.
- **Researchers expertises:**
 - In vitro characterization and evaluation of dental materials.
 - Animal studies.
 - Clinical studies.

Dental Biomaterials Research Unit

Institute of Dentistry Ulg
Quai G.Kurth, 45
4020 Liège- Belgium



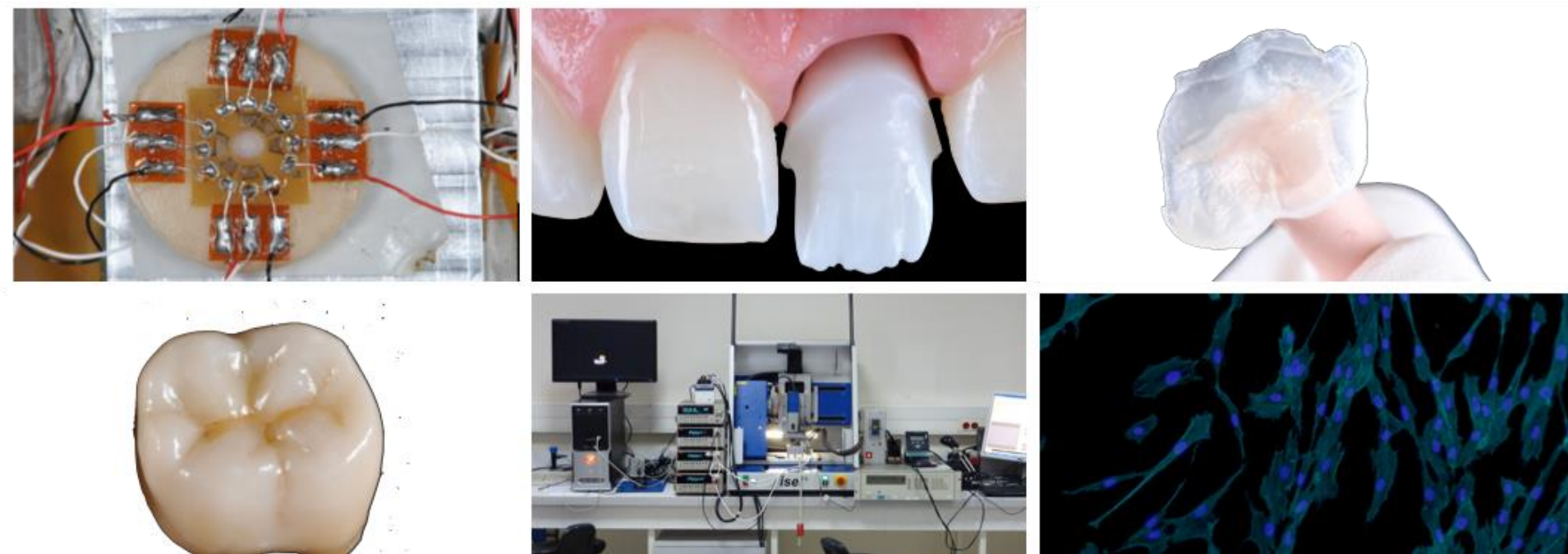
COST Action MP1301

Dental Biomaterials Research Unit

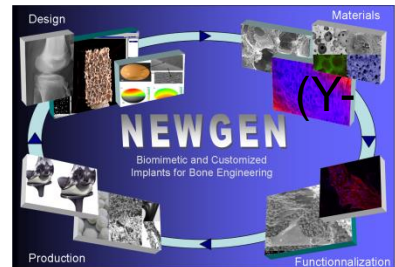
BIOCERAMICS FOR DENTAL PROSTHESES



Evaluation of Y-TZP based materials and glass ceramics for dental prostheses and implant components

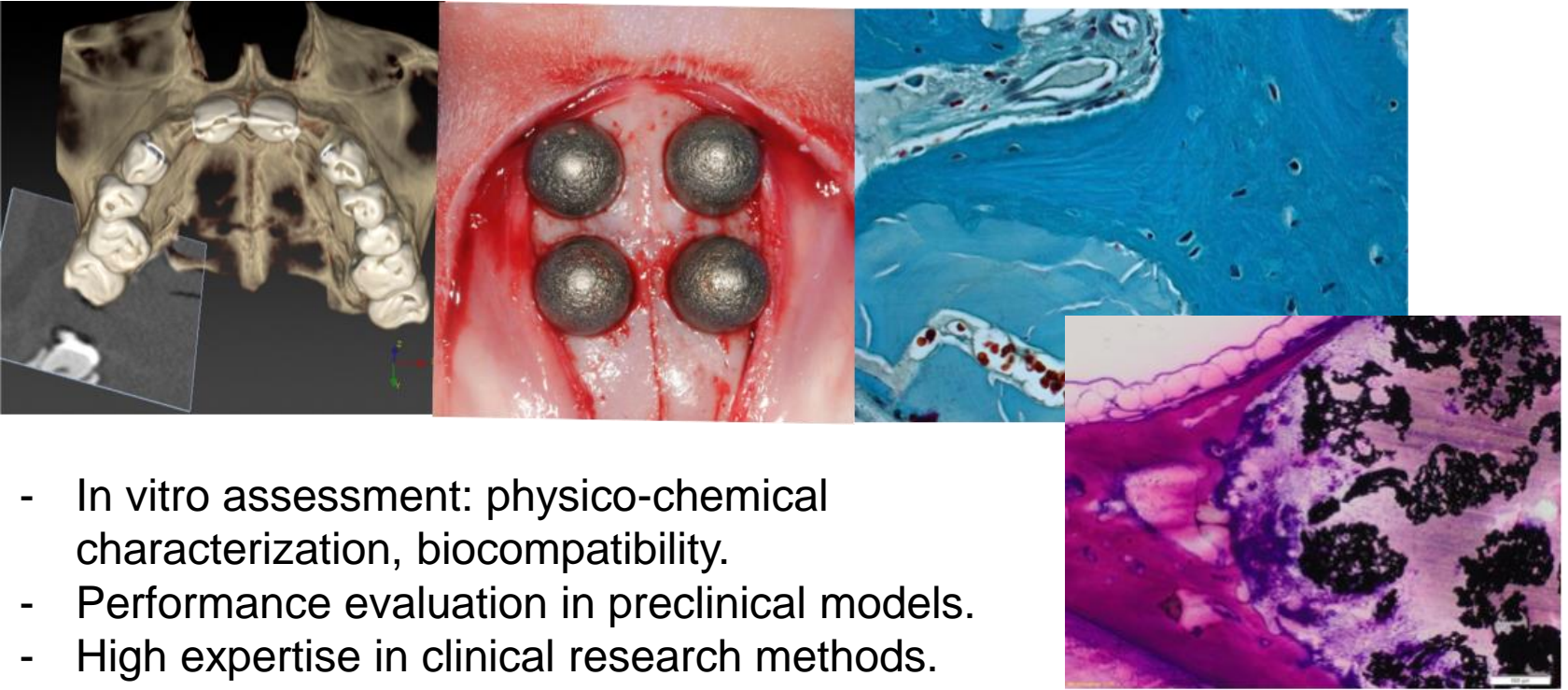


- In vitro studies: characterization, mechanical behavior analysis (high expertise in residual stress measurement), biological properties (cell cultures).
- Evaluation in animal models.
- Clinical studies: standardized evaluation, aging (Y-TZP metastable behavior), fractography.

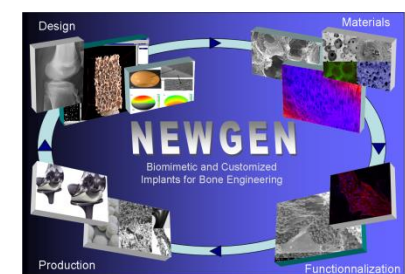


COST Action MP1301

Evaluation of ceramic-based and innovative biomaterials for alveolar bone tissue engineering.



- In vitro assessment: physico-chemical characterization, biocompatibility,
- Performance evaluation in preclinical models.
- High expertise in clinical research methods.



➤ **In vitro evaluation:** The DBRU works with the Faculty of Medicine (GIGA research center), the Faculty of Sciences, and the Faculty of Applied Sciences at the University of Liège, and collaborates with the Dental Biomaterials Research Unit of the Faculty of Dental Surgery at the University Paris Descartes (France). Specific expertises and facilities are available in:

- Characterization: dilatometry, spectoscopy, X analysis, DSC, chromatography, surface analysis...
- Mechanical properties: basic properties, residual stress measurement, fractography.
- Biocompatibility: cell cultures.
- Microscopy: dedicated platform.
- 3D modeling: bone tissue remodelling.

➤ **Preclinical evaluation:** The DBRU works with the Faculty of Veterinary Medicine at the University of Liège and has developed an expertise in the evaluation of dental biomaterials in various animal models (rabbits, rats, minipigs)

- Histology and Immuno-histology (GIGA research – platform)
- Micro CT scan
- Bio-informatics and imaging analyses (GIGA research – platform)

➤ **Clinical evaluation:** The DBRU develops an expertise in clinical evaluation of dental biomaterials. Facilities include:

- Clinical staff: > 50 dental practionners
- Patients/year: prosthetic dentistry, >1000 implant surgeries
- 2 clinics , 45 dental chairs
- 3 Operating rooms

