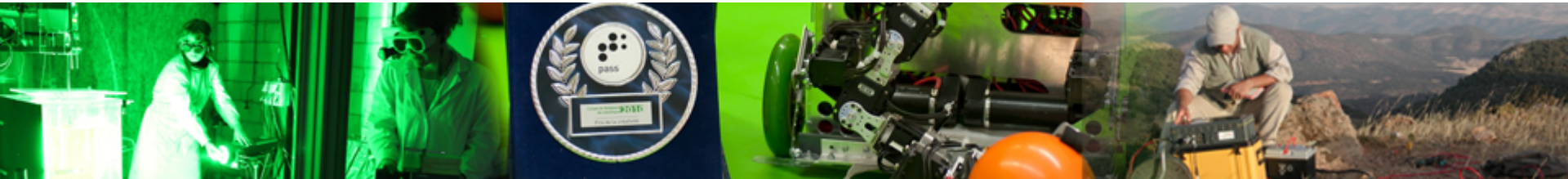
LIÈGE université | UEE Urban & Environmental Engineering

Université de Liège

GEO³ division and the Applied Geophysics Research Unit

Department Urband and Environmental Engineering

Faculty of Engineering

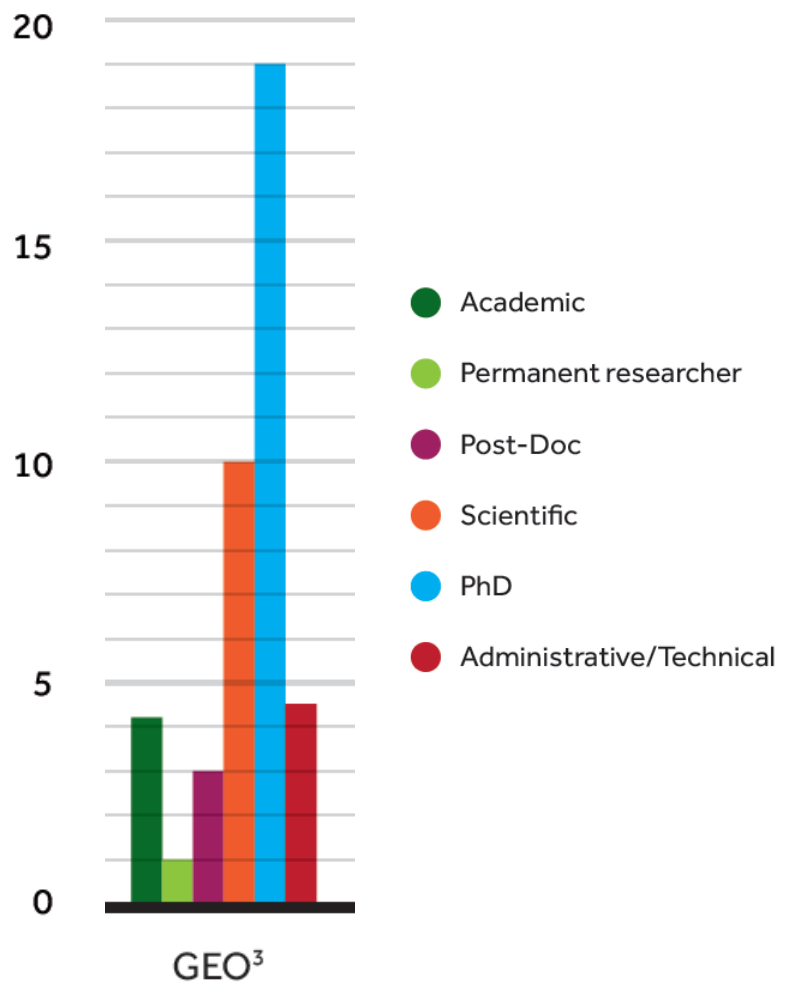


GEO³ research division

Hydro**geo**logy and environmental geology

Applied **geo**physics

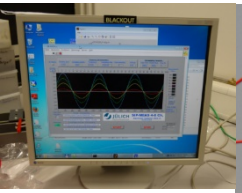
Geomechanics and engineering geology

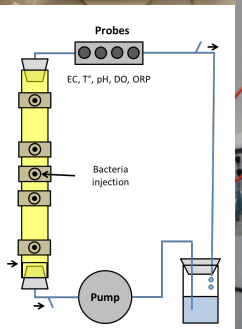


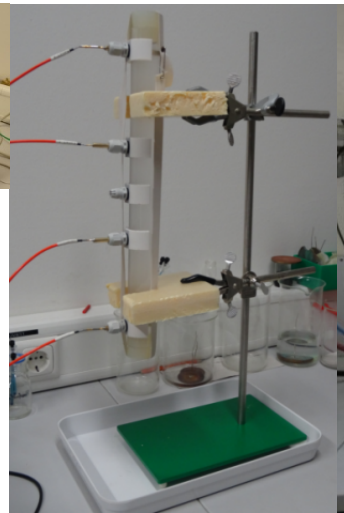
Infrastructures

Three laboratories

- Geotechnology (rock & soils tests)
- Analytical chemistry on liquid phases
- Petrophysics (SIP, temperature controlled)



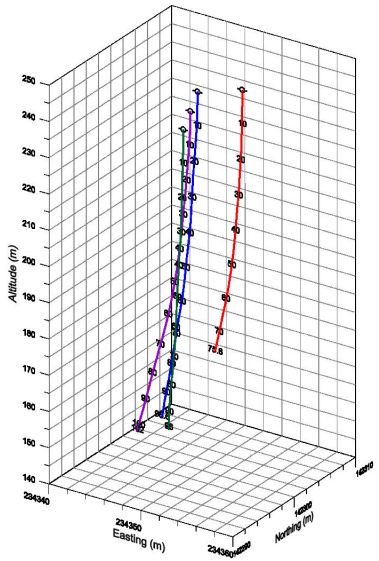


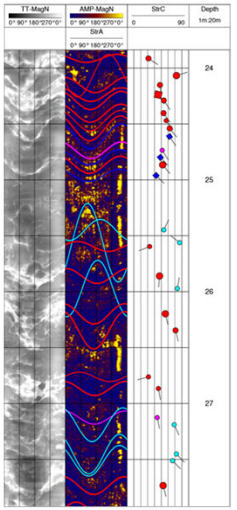


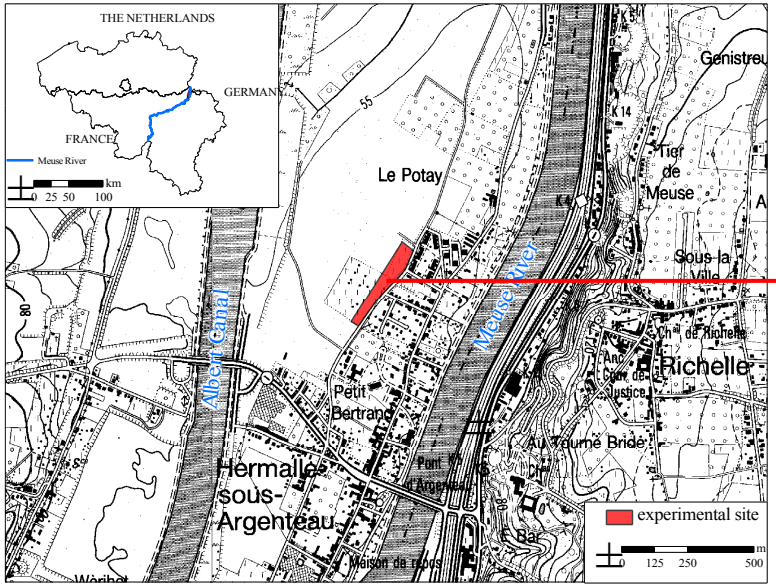
Infrastuctures

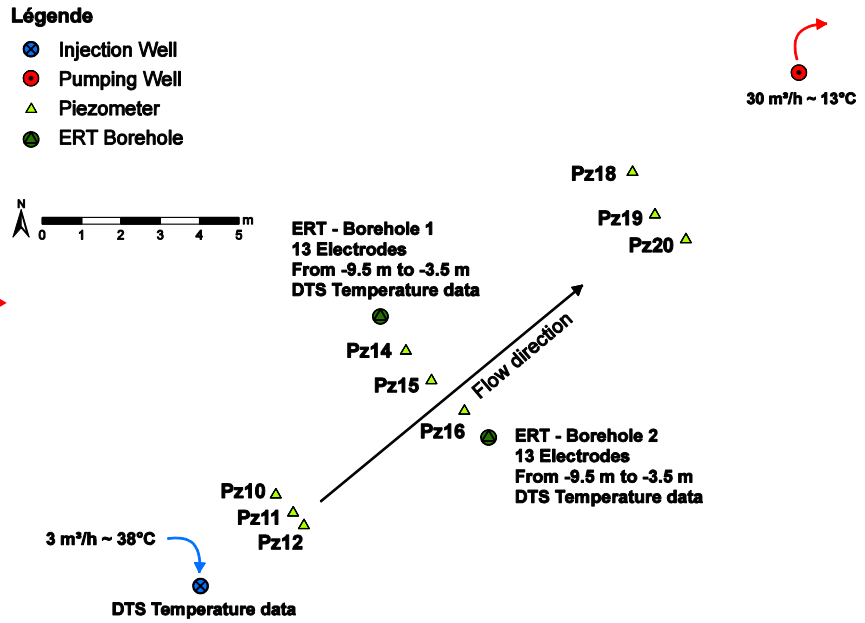
Three **Field sites**

- Hermalle-sous-Argenteau
- Sart-Tilman
- Colonster



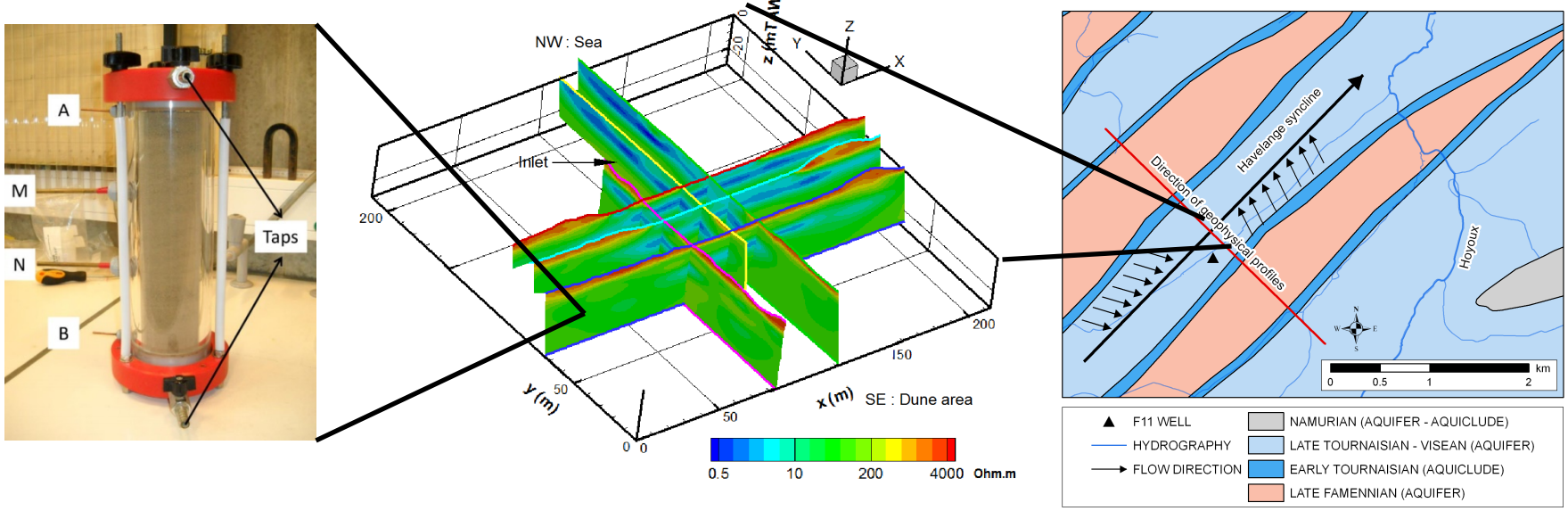




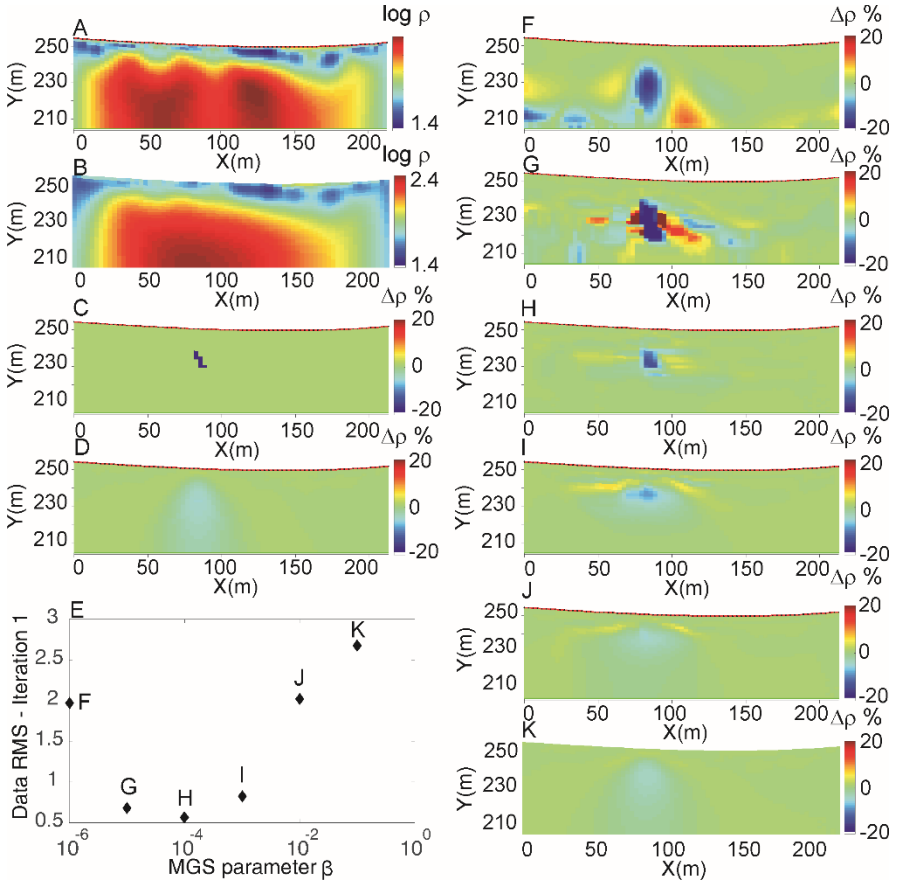


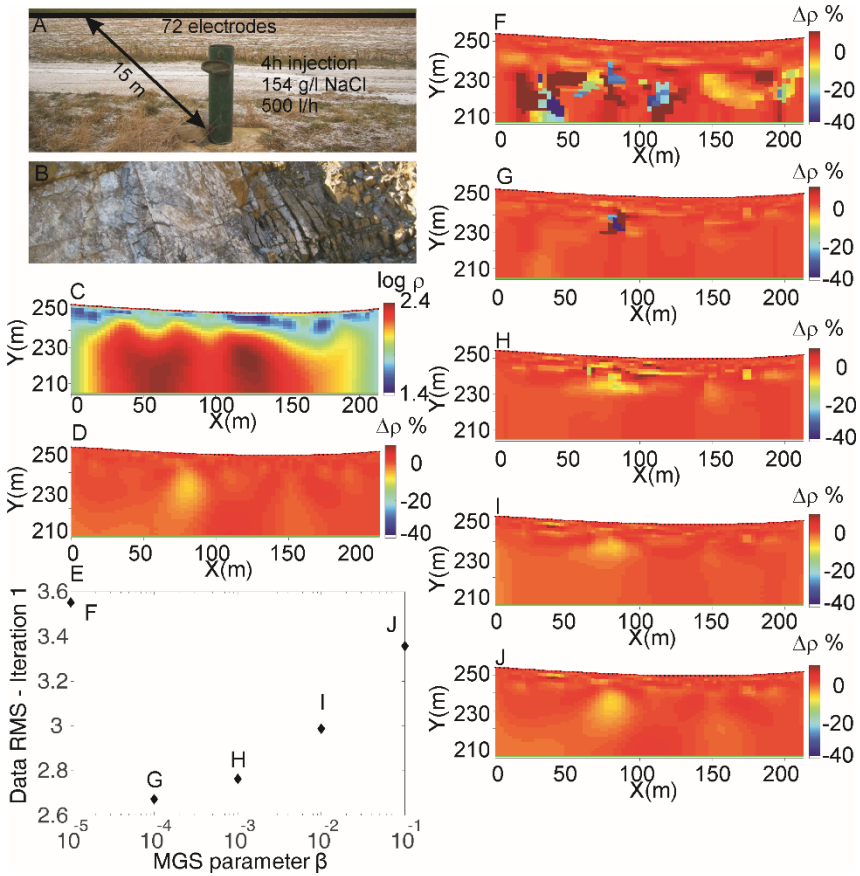
The Applied Geophysics Research Unit (2007)

- **Inverse problems in geophysical imaging**
- **Data assimilation**
- **Environnemental geophysics**



Inverse problem and geophysical imaging





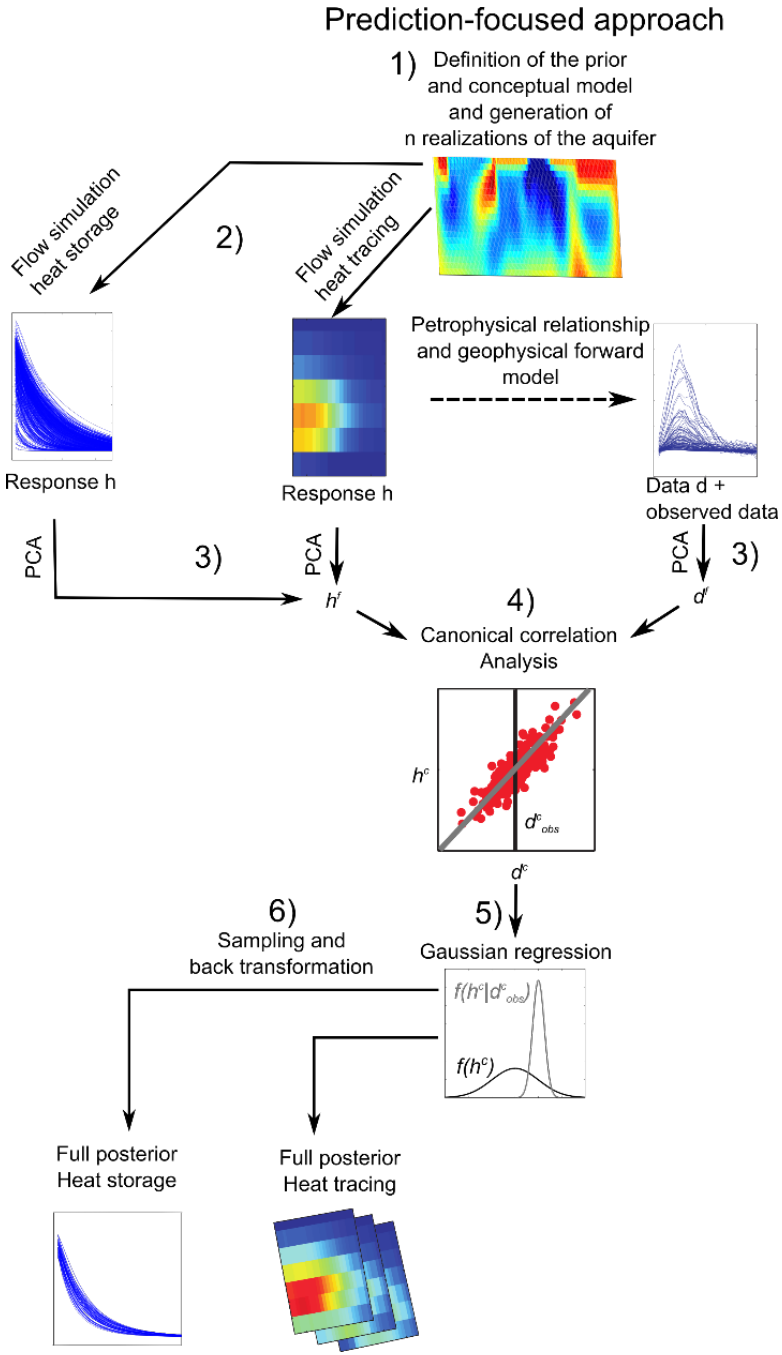
Synthetic benchmark

Field validation

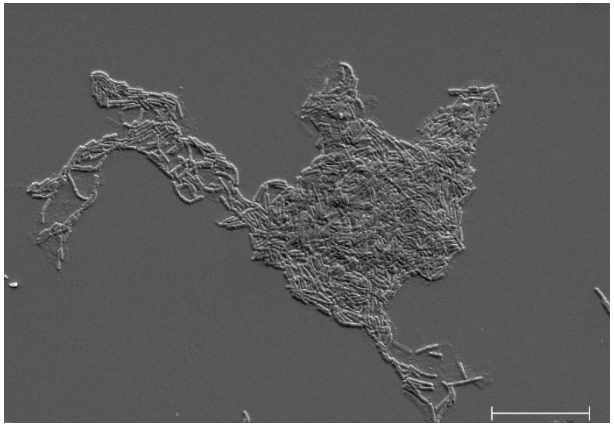
Focused time-lapse inversion

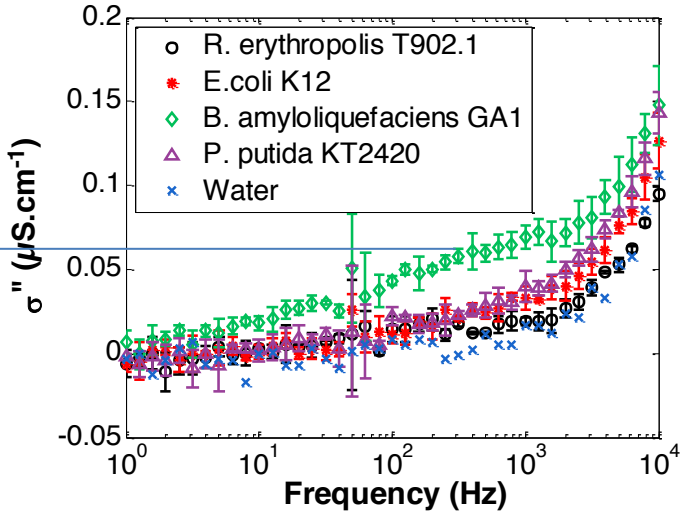
Data assimilation

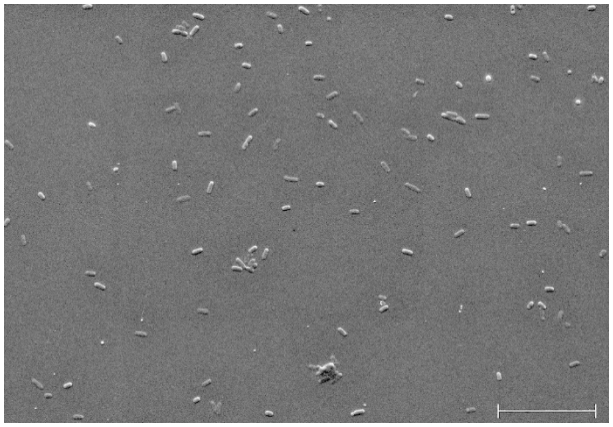
- Stating of **prior geological uncertainty** from previous studies using training images and multiple point geostatistics
- Probabilistic **falsification** of stated geological prior with geophysical data using mutlidimensional scaling
- **Inversion** and conditioning with falsified prior using probability pertubation method or **prediction focused approaches**

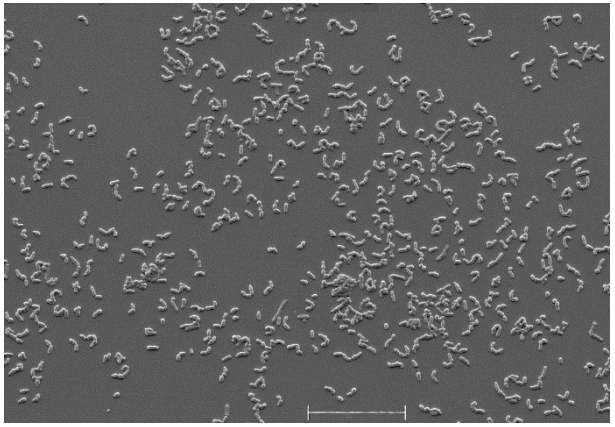


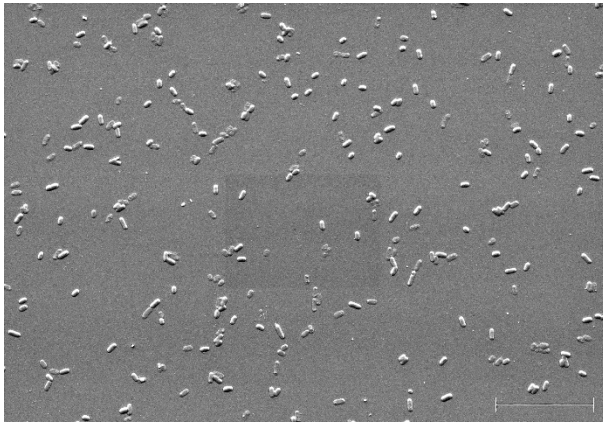
Environnemental geophysics











SEM images of (a) *R. erythropolis* T902.1, (b) *E.coli* K12, (c) *B. amyloliquefaciens* GA1 and (d) *P. putida* KT2420. Horizontal bars represent 20 µm. Only *B. amyloliquefaciens* forms large aggregates

Thanks

Publications may be found at
orbi.ulg.ac.be
and more info at
appliedgeophysicsulg.wordpress.com