

## SCIENTIFIC PORTFOLIO

Syngas fermentation

### Name of scientists in charge

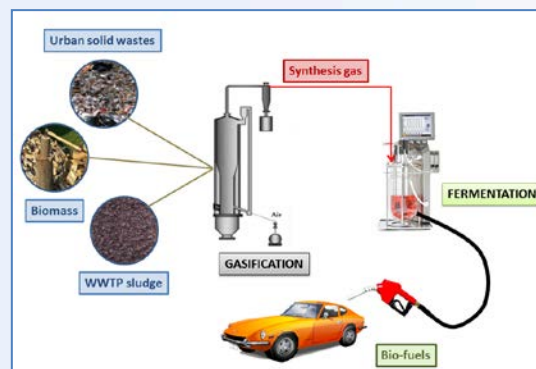
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- > **Dr Marilós Balaguer**, Full Professor. [marilos@lequia.udg.cat](mailto:marilos@lequia.udg.cat)
- > **Dr Ramon Ganigué**, Post-doctoral researcher. [ramon.ganigue@lequia.udg.cat](mailto:ramon.ganigue@lequia.udg.cat)

### Technology description

- > Conversion of wastes into products with added value by thermochemical + biochemical technologies.
- > Biological syngas fermentation to alcohols and organic acids.
- > Carbon chain elongation processes.



*Syngas fermentation at lab scale*



*Production of bio-fuels from wastes*

### Research expertise

- > Kinetic and stoichiometric characterization of syngas fermentation using pure cultures.
- > Syngas fermentation using mixed cultures.
- > Isolation of new strains from mixed cultures.
- > Identification of microbial population through molecular techniques (FISH, SEM, PCRs).
- > Process control and optimization in different reactor configurations.

## Most relevant projects

- > **Biological production of butanol from syngas (SYNTOBU)**. DG Research and Innovation. European Commission (RTD). MC-CIG program. 2013-2016.

## Most relevant publications

- > Ramió-Pujol, S.; Ganigué, R.; Bañeras, LI.; Colprim, J. (2015). **How can alcohol production be improved in carboxidotrophic clostridia?** *Process Biochemistry*. <http://dx.doi.org/10.1016/j.procbio.2015.03.019>
- > Ganigué, R.; Ramió-Pujol, S.; Sánchez, P.; Bañeras, LI. and Colprim, J. (2015) **Conversion of sewage sludge to commodity chemicals via syngas fermentation.** *Water Science and Technology*. <http://dx.doi.org/10.2166/wst.2015.222>
- > Ramió-Pujol, S.; Ganigué, R.; Bañeras, LI.; Colprim, J. (2015). **Impact of formate on growth and productivity of Clostridium ljungdahlii PETC and Clostridium carboxidivorans P7 grown on syngas.** *International Microbiology*. <http://dx.doi.org/10.2436/20.1501.01.223>