**Master Thesis at IIT-CSFT@Torino Laboratory (Environment Park, Via Livorno 60, 10144 Torino)**

The master's thesis project focuses on the utilisation of algal biomass (*Chlorella Sorokiniana*) grown in mixotrophy to feed a bacterial consortium to produce biohydrogen. When microalgae are cultivated in mixotrophy, an accumulation of carbohydrates and fatty acids occurs. Carbohydrates from the pre-treated algal biomass can be used as a carbon source for dark-fermentation process to produce biohydrogen with mixed culture. The main aim of the process is the development and selection through microbial enrichment and bio-augmentation of bio-catalysts which will be characterized and tested as potential candidate to be employed in green hydrogen production from algal carbohydrates.

**Techniques:** Mixotrophy growth of microalgae, microalgae pretreatment, Anaerobic cultivation of microorganisms, molecular biology (qPCR, sequencing), HPLC for VFA detection, GC measurement of headspace gases.

**Duration of thesis:** at least 8 months

**Contact:** **alessandro.cordara@polito.it** **,** **ruggergo.bellini@iit.it**