



PERSONA CIENCIA EMPRESA
UNIVERSITAT RAMON LLULL

RESEARCH PROJECT

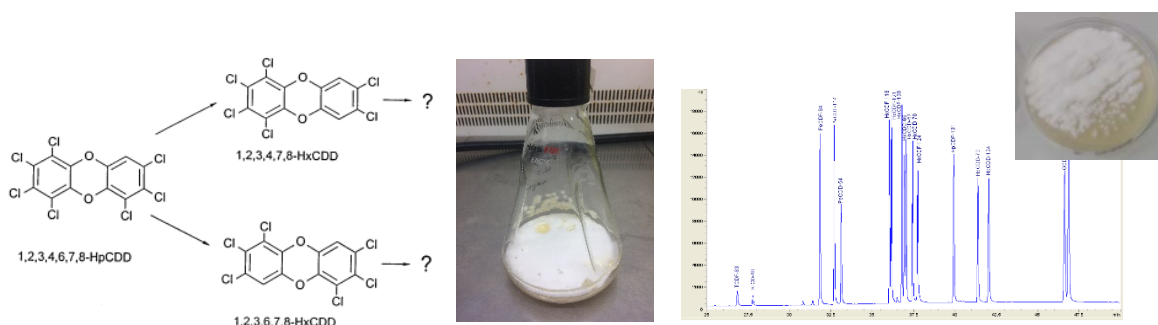
Fungal bioremediation of toxic polychlorinated dioxins and furans

Polychlorinated dibenzo-p-dioxins (PCDDs) and polychlorinated dibenzofurans are well known environmental contaminants because of their persistence, bioaccumulation and toxicity. Their degradation by physical and chemical processes is costly and often produces toxic undesirable products. Bioremediation with selected fungi offers a sustainable alternative and appears as a promising technology for aromatic pollutant removal.

In this sense, the fungus *Phanerochaete chrysosporium* possesses biodegradative capabilities of polychlorinated dibenzo-p-dioxins because of its ligninolytic enzymes, including laccase, manganese and lignin peroxidase (Kasai *et al*, 2010).

This research project aims:

- To assess the capacity of *P. chrysosporium* to degrade different congeners of chlorinated dioxins and furans.
- To study the chemical and enzymatic mechanisms included in its metabolism pathway.



We are seeking a highly motivated student in Analytical Chemistry or Biotechnology for laboratory work on the degradation of aromatic pollutants by selected microorganisms. Our multidisciplinary approach will allow the candidate to cover several research fields from microbiology, chromatography coupled to MS and enzymatic analysis. IQS is one of the Schools of Engineering of the University Ramon Llull, located in Barcelona, Spain.

References: Kasai, N., *Appl Microbiol Biotechnol* (2010) 86:773–780

Position offered (2018-2019): 1 Master research project (6-9 months)

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