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Chemical Engineer passionate on scientific work

Profile

I am a Chemical and Biochemical Engineer passionate about scientific work. I can define myself as a systematic and analytic person, which can learn fast and is enthusiastic about innovation and research. In my studies, I have developed my communication and social abilities as I performed my assignments in groups and presented them orally. Studying in two different countries (Spain and Denmark), has made me adapt quickly and effectively to meet the demands at an academic and personal level.

Relevant experience as a Chemical Engineer

- Master thesis at DTU, Denmark: ***Enzymatic extraction of alginate from brown algae.*** **(2018,Denmark)**
  Alginate is a biopolymer found in the cell wall of brown algae and it has a great commercial value as it can be used as a gelling agent in pharmaceuticals, food or cosmetics. The aim was to enzymatically extract the alginate from the cell wall in a milder way than the current chemical processes. The extraction also followed the **cGMP** guidelines. The side streams composed by carbohydrates and proteins were not disposed, instead, they were tested for being used as yeast growth medium and further use in the **fermentation** of beer or cheese.
- Special course at DTU, Denmark: ***Anaerobic co-digestion*** *of crude glycerol and swine manure in continuous systems.* **(2017, Denmark)**
  The study was focused in the potential of crude glycerol as a co-substrate with swine manure in regards to enhance its biogas production and avoid microbial inhibition.
- **Life Cycle Assessment** (**LCA**) of products and systems, DTU, Denmark: *Life Cycle of the gellan gum in soya beverages****.*** **(2017, Denmark)**
  Gellan gum is a food additive added in different products to increase its viscosity. The main goal of the study was to assess the environmental hotspots of the life cycle of the gellan when added to soya beverages.
- **Internship** in the **Microbiology department** at Petnica Science Center**, Serbia:** *Water quality assessment.* **(2017, Serbia)**
  Analysis of the water at Petnica Lake, through the isolation of **bacterial pure cultures**, testing their **resistance to antibiotics and performing ELISA assays** to determine the safety of bathing in the lake.
- Bachelor Thesis at DTU, Denmark: ***Conversion of Lignosulfonates in value-added chemicals***. **(2016, Denmark)**
  Collaboration with the biorefinery company *Borregaard*. The aim was to obtain valuable products from the oxidation of lignosulfonates of wheat straw in a batch reactor with severe conditions and using a **copper-based catalyst**.
- **Project** in Principles and methods of process design. ***Production of dimethylether from natural gas.*** **(2016, Denmark)**
  Modelling and simulating the production and purification of a valuable chemical, including an economical and environmental evaluation of the process.

Education

2016-ongoing	MSc in Chemical and Biochemical Engineering, DTU, Denmark
2015-2016	Exchange in BSc Chemical Engineering, DTU, Denmark
2013-2015	BSc in Chemical Engineering, Universidad de Zaragoza, Spain
2013	Graduation of PAU, last-year of high-school (Bachillerato)

Other experience

- **Volunteer as project manager** with Stunderhuset in the **Green Cups Solution project.** Substitution of plastic beer cups by rice-based cups at Studenterhuset. Project financed by ***Carlsberg*** and materials provided by the ***The rice way***. **(January 2018- ongoing)**
- **Volunteer work** at Roskilde Festival 2016 as casher, serving and preparing food at the organisation of ``The Ranch´´. **(June 2016, Denmark)**
- **Assisting and collaborating** at *SONTER-ECS, S.L.* a prevention of labour risks company, in which labour inspections where performed taking measurements of CO_2, chlorines and sulphates present in the air. **(July 2015, Spain)**

Languages

Spanish	Mother tongue	**German**	B1 (Goethe Institut)
English	C1 (IELTS)	**Catalan**	Proficient
Danish	PD 3 (Module 5)		

Analytical competences

- **Chemical analysis:** Liquid and Gas Chromatography (HPLC, GC), Size Exclusion Chromatography (SEC), Spectrophotometry as well as gravimetric and volumetric analysis.
- **Biological analysis:** ELISA assays, antibiotic resistance determination (MIC) and SDS-PAGE.
- **Physicochemical analysis:** Measurements of density, viscosity, conductivity, capacity and permittivity.
- **Risk Assessments:** HAZOP and HAZID

IT competences

Programs	Matlab & Matlab Simulink MS Office, Open Office. PRO/II, Aspen AutoCAD , Sima Pro JMP (Design of experiments)	**Programming languages**	Pascal, Fortran

Extra-curricular activities

Sports	Swimming, CrossFit and Ski	**Music**	Piano and violin