SERGI ARFELIS ESPINOSA

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WORKING EXPERIENCE

Researcher (UNESCO Chair in Life Cycle Assessment and Climate Change, June-2021 to current):
Linked to the Swiss company *Deasyl*. The project is related to the development and application of the Life Cycle Assessment (LCA) methodology to chemical synthesis reactions of *Deasyl* environmental technologies.
The job includes participating in others environmental projects, participating in the public debate, preparing scientific proposals, presenting results in congresses and writing scientific articles in top-level international journals.

Plant Engineer (Dynatec SA, Sep-2018 to May-2021):
Working on assignment to Dow Chemical Tarragona TurnAround (TA2021) team. Carrying out following tasks (among others):

1. Coordinating the octene plant catalyst recovery project and the installation of a temporary waste management system which takes care of the water with hydrocarbon effluent of the process. Water treatment and waste valorisation.
2. Producing significant economic savings and a clear prioritization of tasks through the return on investment (ROI) study and the Add-on / Rest-on assessment for all the works orders of TA2021. Reliability, environmental and economic assessment.

Chemical Engineer Intern (Clariant, Feb-2018 to Jun-2018):
Providing significant energy savings through the piping modifications proposals of the steam generation plant.

Maintenance Engineer (TDE, Jul-2017 to Aug-2017):
Achieving high standards of traceability on the historic events happened in the plant.
Procuring the proper state of the plant by supervising visual inspections and Eddy Currents.

EDUCATION, SKILLS AND AREAS OF EXPERTISE

PhD in Environmental Sciences (UPC, Oct-2021 to current): Life cycle analysis of different green chemistry, mechanochemistry and ball milling processes as an alternative to conventional technologies

MS Industry 4.0 (UNIR, Mar-2020 to Apr-2021), 60 ECTS:
Robotics; Big data; Cybersecurity; ISO20001; Innovation and digital transformation; Industrial Internet of things; Additive manufacturing; Sensors, devices, networks & communications protocols.
MS Thesis: *How can Industry 4.0 enablers help closing the loop on Plastics?*

Course in Python (UNIR, Apr-2021 to May-2021), 3 ECTS:
Basic programming; Functions & anonymous functions; Import packages and modules; Regular expressions, errors & exceptions; Data analysis: numpy & panda; Data visualization: matplotlib & plotly.

Course in Applied techniques of energy efficiency in industrial processes (UCLM, Jun-2020 to Aug-2020), 50 hours:
Energy efficiency; Pumped systems; Furnaces & HX; Boilers & steam grids (cogeneration); Energy audits & energy management systems (ISO50001)

MS Environmental Engineering and Sustainable Energy (URV, Oct-2018 to Jan-2020), 90 ECTS:
Renewables; Thermal & hydraulic machines; Water treatment; Air pollution; Waste management; Energy transition; Energy economics; ISO14001 & ISO50001; Management of change; Risk Management
MS Thesis: *Proposals to improve a temporary plant for catalyst recovery in an Octene plant (based in Dow Chemical)*

BS Chemical Engineering (URV, Sep-2013 to Jun-2018), 240 ECTS:
Thermodynamics; Reactor kinetics; Process engineering; Laboratory; Industrial maintenance; Biotechnology; Equipments & installations design; Materials science; Control & instrumentation; Industrial leadership; Economy; Mathematics; Physics; Chemistry
BS Thesis: *Implementation of energy savings improvements in the plant of services (based in Clariant)*

SKILLS

Life Cycle Assessment; Risk Assessment; Pinch Analysis; Energy efficiency; Circular Economy; Sustainability; Data analytics; KPIs

Softwares & computer skills: Fusion360; Ultimaker Cura; V-REP; RStudio; Weka; FIWARE; IoTIFY; Python; GaBi; RETScreen; DesignBuilder; Aspen HYSYS; Aspen Plus; AutoCAD; Superpro; Polymath; Aloha; Office package

Other skills: Willingness to learn; Ability to teach; Attention to detail; Teamwork; Project planning (Gantt, SCRUM, others…)

Languages: English (C1 Level); Italian & French (beginner)

AWARDS

Finalist in the Magda Medir-Essity award, *as one of the five best students in the Leadership subject in the 4th year of Chemical Engineering degree.* (URV, Sep-2017 to Jun-2018)

Team Member in one of the top 20 out of 500 teams of the **X-Culture international business competition** *on developing a high-quality business plan for a multinational company.* (URV, May-2016)