Hugo Dignoes Ricart

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Technical Skills

Programming Languages: Python, Ruby on Rails (certified), HTML5, MATLAB

Engineering Software: Aspen Plus, HYSYS, Simulink, Solidworks, Fusion360, Cura

Other Certifications (UBC RMS): Chemical Lab Safety, Biological Lab Safety, Radiation Safety, Workplace Bullying and Harassment Prevention, Workshop Safety, Lasercutting

Practical Skills: workshop tools, 3D printing and printer maintenance, experimental design

Research Experience

UBC Vancouver, Canada

Student Researcher *Nov 2021 – Present*

- Building process model on Aspentech software for an economic analysis of oxidative and non-oxidative dehydrogenation of propane.

Research Assistant *May 2018 - May 2019*

- Developed low-cost device to accurately measure viscoelastic properties of neural cells for CTE/Alzheimer's research.
- Designed experimental procedures; collected, processed, and displayed data; found simple solutions to complex biomechanical problems.

Projects and Design Teams

UBC Envision Vancouver, Canada

VP External *May 2018 – October 2018*

- Prepared a list of conferences, competitions, and funding opportunities for the upcoming year.

Safety Officer *May 2017 – May 2018*

- Recognized, documented and advised on removal of hazards.
- Conducted safety audits, managed chemical inventory, and ensured proper disposal of all waste.
- Trained new team members in workshop and lab safety.
- Reviewed and advised on development of Standard Operating Procedures.
- Negotiated and mediated agreements between design teams sharing labs and workshop space.
- Designed and built inventory system on Google Drive.

Electrical Team Lead *Sep 2016 – May 2017*

- Led team of 6 in design and building of circuit for small chemically powered car.
- Designed and improved sensing and control systems.
- Coordinated with two other teams to create empirical model of car speed and iodine clock reaction based on initial conditions.

Capstone Project

Production of Renewable Natural Gas: Methanation of CO2 Using H2 Obtained Through Water Electrolysis

- Won the 2021 Design and Innovation Day Award as chosen by industry experts.
- An alternative to carbon sequestration which makes use of existing infrastructure to help Canada transition to renewable energy.
- Designed, simulated, and optimized reactor, heat exchangers & heat integration.
- Performed economic analysis, environmental assessment, and lifecycle analysis, as well as HAZOP study.

Education

The University of British Columbia *Sep 2016 – May 2021*

Bachelor of Applied Science – Chemical Process Engineering, Minor in Chemistry

The International School of Geneva

International Baccalaureate (IB programme) – HL: Chemistry, Biology, Physics, French B; SL: Math, English Literature, History

Languages

English (native), Spanish (native), French (near fluent), Catalan (working proficiency)