

Nouhad Houssam Al Rifaii

M.S Chemical Process Engineering

- General Chemical Engineering

- Catalysis

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Date of birth: 1 March 1996

Nationality: Lebanese



Experience

Research assistant

Sep.2017-Present

American University of Beirut, Lebanon

Thermal and oxidative cracking of HDPE

Design a fixed bed reactor

Optimize the operation conditions (Temperature, flow rate, residence time)

GC analysis for oil and gas samples

Catalytic oxidative cracking of HDPE

Catalysis characterization using different characterization techniques BET, SEM, TGA, XRD, AAS

GC analysis for catalytic experiments

Synthesis of series of experiments using different synthesis method (Wet Impregnation, Sol Gel..)

Chemical engineering tutor

Feb 2016- May 2017

University of Balamand, Lebanon

Deal with different level of students

Deliver the knowledge easily by giving the student the key points

Hydrogen production-Master project

June 2017

University of Balamand, Lebanon

Design a steam methane reforming reactor and the use of hydrogen in hydrotreating:

Literature review on steam methane reforming and the effect of different operating conditions on the activity of the catalyst followed by a case study on the amount of hydrogen needed to hydrotreat petrochemicals.

Internship

Sep. 2017

Hypco, Lebanon

Supervising the site

Understand the concept of net metering technique

Observe tank fabrication, loading and discharging process

Conduct vessel discharging calculations

Learn how to write a tank maintenance report

Internship

Dec.2016

SNCI/Fattal Holding, Lebanon

Witnessing the production of the various batches of Eau de Toilette, Eau de Cologne, Deodorant, Shower Gel,

Dishwashing liquid and filled products on the filling lines

Working in the laboratory (pH, viscosity, turbidity, bacteriology tests)



Education

2017/2019 - **MS in Chemical Process Engineering** – American University of Beirut, Lebanon.

2014/2017 -**BS in Chemical Process Engineering** – University of Balamand, Lebanon.

With honor.

1999/2014 - **Life Sciences; Lebanese Baccalaureate** – College des Soeurs des Saints-Coeur.



Awards



- “Safayna” – Second prize Urb Hackathon Lebanon with Unverscience-2018, Developed application concept for Data-Urbanism: Reducing city air pollution from transport. It’s a Google Maps-like application that allow people to find and spot free parking spaces in order to reserve them 5 minutes before their arrival. This helps save time as well as cut back on CO2 emissions. The Prototype is now displayed at la Cité Des Sciences et De L’Industry in Paris.
- Merit award-College des Soeurs des Saint Coeurs Zahle -2014, for the good perfomance and the good grades earned.

Seminar

Catalytic oxidative cracking of HDPE at the american university of beirut ,
4 April 2019



Key Skills



Technical

Synthesis of materials: oxides (Al₂O₃, TiO₂, MgO, La₂O₃), Li-MgO, Pt-Al₂O₃,Li- La₂O₃ and other catalysts using different preparation techniques

Development of pilots: design of reactor, order and assembly of devices for gas/liquid processes, HAZOP, PID, safety and process matrix, maintenance and leak detection.

Materials characterization: XRD, N₂ sorption isotherms, SEM, EDX, TGA, AAS

Additional measurements: GC-MS, FTIR

Software

Microsoft office (Word, Excel, Powerpoint), EndNote, Matlab.

Simulations: Labview

Programming language: basic knowledge C++.

Languages

- | | |
|---------|------|
| French | ★★★★ |
| English | ★★★★ |
| Arabic | ★★★★ |

References

Dr. **Cassia Boyadjian**
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