

PÅL MARTIN BENUM

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Summary

Hardworking chemical engineering MS student at NTNU looking for full time employment upon completion of MS degree in spring 2023. Experience in both lab and manufacturing settings. Proficient in data analysis and loss elimination and a good team player.

Skills

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| • General chemistry lab operations | • Data analysis |
| • Manufacturing engineering loss elimination | • Workflow optimization |
| • Basic MATLAB, Python and VBA experience | • Operation of plug flow reactors for catalyst testing |
| • Catalyst synthesis and preparation | • Experience in XRD, rheometry, BET, BJH, TPR, S(T)EM, chemisorption. |

Experience

Catalyst Reserach Intern

Jun 2022 - Aug 2022

Yara International - Porsgrunn, Norway

- Worked as part of a larger project regarding and innovative and more sustainable nitric acid production process.
- Prepared catalysts through pellet pressing, calcination, crushing, and sieving into different size fractions.
- Conducted high precision activity testing of catalysts through gas phase reactions in plug flow reactors.
- Gathered and processed large amounts of data to calculate conversion, selectivity, pressure drop, contact time, reaction order etc.
- Analyzed and discussed results in order to optimize further testing conditions.
- Determined reaction conditions where relevant reactions were free for mass transfer limitations, and created a framework for the procedure of finding such conditions for future activity testing.
- Presented the findings to upper management through an oral presentation and written report.

Undergraduate Student Research Assistant

Aug 2020 - Dec 2020

Missouri University of Science & Technology - Rolla, MO

- Synthesis and characterization of alternative, Gehlenite-based cement.
- Collected, extracted, and entered data with high degree of accuracy.
- Performed XRD analysis of synthesized cement samples.
- Performed rheological analysis using rheometer.
- Evaluated and interpreted collected data and documented findings to present formally.

Process Engineer Intern

May 2020 - Aug 2020

Procter & Gamble - Cape Girardeau, Missouri

- Collected production data from diaper production line for use in discovering operational bottlenecks and developing corrective measures.
- Improved manufacturing efficiency by analyzing workflow practices and recommended actions such as modifying space requirements and altering equipment layouts.
- Reduced losses from certain failure mode by 99% with thorough evaluation of procedures and several strategic updates.
- Helped train upper level management in understanding and maximizing a newly introduced performance metric.

Education

Bachelor of Science : Chemical Engineering

May 2021

Missouri University of Science & Technology - Rolla, MO, United States

- GPA 3.8, Dean's List Honoree, 2 semesters.
- Men's Soccer Team 2017-2021 (CSUSA)
- CoSIDA Academic All District Team 2019 & 2021
- Academic All-American Team 2021
- GLVC's Council of President's Academic Excellence Award