Michael Olson

Chemical Engineer
UBC Chemical Engineering BaSC | 2012 - 2016

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Qualifications

- Fluent in advanced simulation software including ASPEN, HYSYS and FluidFlow3 for process design and optimization
- Robust computational software development skills, for example; Excel (VBA), Mathcad, Matlab, C++ and Xcode for app development
- Capable of working in a highly productive multidisciplinary engineering team
- Strong industry experience in both pulp and paper and Sulphuric acid industries, in both Canada and Sweden

Experiences

JR PROCESS ENGINEER

NORAM ENGINEERING AND CONSTRUCTORS LTD

January – August 2016 | Vancouver, Canada

- Sized Sulphuric acid plant pumps using FluidFlow3
- Performed MathCad simulations in order to calculate temperature and mass transfer profiles within an absorption tower
- Created Mass and Energy balances (Process Flow Diagrams) for Sulphuric acid plants
- Designed a program in excel to calculate the amount of condensate which will form within a heat exchanger during startup

ASSISTANT RESEARCH ENGINEER

INNVENTIA AB

May – August 2015 | Stockholm, Sweden

- Experimentally measured the flow resistance of water through pulp fibers
- Used a data recording system to measure dewatering speeds with an ultrasonic sensor
- Measured pulp quality including tensile, stiffness and strength
- Measured pulp quality of function fibers and recycled fibers
- Investigated the effect of mechanical treatment on paper performance
- Results were reported in a scientific paper to be submitted to the scientific journal-cellulose

ASSISTANT RESEARCH ENGINEER

CANFOR LTD

May – December 2014 | Vancouver, Canada

- Designed a VBA program to extract text files from a fiber property analyzer and search for specific information to be removed and placed into excel
- Developed a new pulp grade for electronic applications in industry plants
- Measured pulp quality including; conductivity, pH, tensile, tear, freeness, brightness and burst
- Assisted running a pilot plant sized refinery to conduct energy specific pulps
- Performed chemical analysis using an ICP (inductively couple plasma mass spectrometry
- Performed routines strength audits as part of a team at the Prince George pulp mills

ASSISTANT RESEARCH ENGINEER

UBC CHEMICAL ENGINEERING DEPT.

May – August 2013 | Vancouver, Canada

- Designed mechanical components of a novel Micro-Fibrillated Cellulose (MFC) production system including the rotor, shaft, fluidizer using SolidWorks 2011 and worked with the machine shop to fabricate the system
- Learned Labview independently and used it to integrate a computer, National Instruments DAQ with the MFC system sensors (pressure, temperature, torque and speed)
- Designed, built and tested a flow loop made from PVC pipe and a positive displacement pump
- Created MFC using the system and experimentally determined the impact of MFC addition on never dried Northern Bleached Softwood Kraft (NSBK) pulp using conventional pulp quality analysis
- Measured the resulting pulp quality including tensile, tear, bulk, freeness, fiber length, brightness

Projects

DESIGN PROJECT

September 2016 – Present

- Design of a 1200 MTPD Sulphuric Acid plant with the option for the production of Oleum simulated in Aspen 7 and HYSYS
- Designed P&ID's as well as developed logic and control philosophy for a Sulphuric acid plant

REFERENCES

Kim Nikolaisen - Noram Engineering and Constructors - Knikolaisen@noram-eng.com

Ranbir Heer - Canfor Pulp Innovation - Ranbir.Heer@canforpulp.com

Mark Martinez - Director of the Pulp and Paper Centre at UBC - Mark.martinez@ubc.ca