POLYTECHNIQUE MONTRÉAL
WORLD-CLASS ENGINEERING

Maryam Abdollahi Neisiani

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EDUCATION

École Polytechnique de Montréal, — Montréal, Canada
M.A.Sc. in Chemical Engineering — Expected June 2017
GPA: 3.8/4

Sharif University of Technology — Tehran, Iran
B.Sc. in Chemical Engineering — May 2014

ENGINEERING EXPERIENCE

Research assistant — Jan.2015- present
Slowpoke Lab, École Polytechnique de Montréal

- Developing tailored NAA(neutron activation analysis) for industrial applications for detection of rare earth elements
- Conducting irradiation procedure on mineral samples, analyzed samples and developed analysis procedure for each separation process
- Preparing quarterly reports and presentations for the industrial partners
- Delivering NAA training to Chemical Engineering students

Research assistant
Process Design Lab, Sharif University of Technology — Jan. 2012-Nov.2013

- Introduced new entrainers for azeotropic mixture of ethanol and ethyl acetate
- Designed and constructed a specific set up for online-batch sampling of azeotropic mixtures
- Modeled equilibrium behavior of the process and plotted relevant residue curve maps

Summer intern
Process Design & Simulation Lab, University of Tehran, — Jul. -Aug.2013

- Performed kinetic modeling of CO2 adsorption in fluidized bed with MATLAB

ACADEMIC PROJECTS

Catalysis and applied kinetics, Ecole polytechnique Montreal (audited) — Jan.-May 2016

- Team design project to propose a new catalyst for esterification of oleic acid
- Synthesized catalysts, used BET, PSD and XRD to quantify the physical-chemical properties
- Derived a kinetic model from experimental data
- Investigated the effect of the operating variables on reaction rate

Reaction engineering, Ecole polytechnique Montreal — Jan. -May 2015

- Team design project to develop a production process for acrylonitrile

- Performed energy and mass balances, economic analysis and environmental evaluation

Plant design and economics for chemical engineers, Sharif University Jan.-May 2014

- Team design project to investigate production process for phenol
- Evaluated PFDs, P&IDs for a given plant
- Developed a plant capital cost estimate based on published data

Heat Exchanger and Column Design, Sharif University Jan.-May 2013

- Team project to design heat exchanger and column design using visual basic
- Performed energy and material balances and cost estimation for the processes

SKILLS

Scientific
Extensive background in process and product design, process modeling and simulation, scale-up, multiphase reactor design operation and simulation, statistical process analysis, biomass and coal gasification, combustion.

Measurement techniques
Expert in employing Neutron activation analysis (**NAA**), thermal gravimetric analysis (**TGA**), CHNS/O elemental analyzer, x-ray powder diffraction (**XRD**), Fourier transform infrared spectroscopy (**FTIR**), High Performance Liquid Chromatography (**HPLC**), N_2 adsorption (**BET**), particle size distribution (**PSD**)

Science and Engineering Software
Specialist in process simulation with ASPEN, COMSOL

Programming/Computer
Professional programmer with MATLAB, Expert in Microsoft Office

PRESENTATIONS

IMPC2016, Quebec City, Canada Sep. 2016
Quantifying rare earth element content in chemical separation processes by neutron activation analysis

Chemical Engineering Research Day, McGill University Mar. 2016
Quantifying rare earth element content in chemical separation processes by neutron activation analysis

PROFESSIONAL ACTIVITIES

Student Volunteer
Fluidization XV - Engineering Conferences International May 2016

5th National Conference on Safety and HSE Mar. 2014