



Education

- **Polytechnique Montreal, Montreal, QC, Canada** (2013-present)

Ph.D. Degree, Department of Chemical Engineering

Thesis: "Chemical recycling of polystyrene by microwave pyrolysis"

- **Polytechnique Montreal, Montreal, QC, Canada** (2012)

B.Eng. Degree, Department of Chemical Engineering

Research Interests

- Chemical Reaction Engineering
- Process Design, Development and Optimization
- Microwave Heating
- Conventional and Microwave Pyrolysis
- Thermal and Catalytic Fixed-Bed Reactors
- Development of Renewable Energy Resources (Post-consumer Plastics and Valorization)
- Development of Sustainable Processes
- Process Heat Integration
- Catalysts synthesis

Expertise

- Process development in lab: experimental and modeling
- Chemical reaction engineering: thermal and catalytic
- Microwave engineering
- Process operation and troubleshooting
- Experimental design and statistical analysis
- Chemical processes simulation with ASPEN and HYSYS
- Utilization of Induction heating in extremely high temperature reactors
- Characterization and measurement techniques such as:
 - GC-MS, GC-FID, GC-TCD, CHNS/O Elemental Analyzer, Oxygen Bomb Calorimeter, Automatic distillation, Karl-Fischer Titrator, Potentiometric Titrator, Flash Point Tester, Thermogravimetric analysis (TGA)



Research Background

- Development of a microwave thermogravimetric analyzer for kinetic studies
- Development of a catalytic fixed bed for pyrolysis gases treatment
- Kinetic study of polystyrene microwave pyrolysis
- *In-situ and ex-situ* catalysts evaluation on polystyrene microwave pyrolysis products
- Kinetic study of catalytic polystyrene microwave pyrolysis
- Modelling of microwave heating during pyrolysis

Teaching Experience

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| • Elements of Chemical Reaction Engineering,
Polytechnique Montreal, Montreal, QC, Canada | Teaching
Assistant | Summer & Fall
2013 - 2015 |
| • Chemical Engineering Project I,
Polytechnique Montreal, Montreal, QC, Canada | Teaching
Assistant | Winter
2015 |
| • Brewing Engineering,
Polytechnique Montreal, Montreal, QC, Canada | Instructor
(one class) | Winter
2014-2015 |
| • Organic chemistry,
Polytechnique Montreal, Montreal, QC, Canada | Laboratory
Responsible | Winter
2011 - 2014 |
| • Process analysis and sustainable development,
Polytechnique Montreal, Montreal, QC, Canada | Teaching
Assistant | Fall
2011 |