POLYTECHNIQUE MONTRÉAL
LE GÉNIE EN PREMIÈRE CLASSE

Rémi Demol, M.Sc.

Montreal, Quebec H2P 1Y5
remi.demol@polymtl.ca

Education

- **Polytechnique Montreal, Qc, Canada** (2015-2017)

M.Sc. Degree, Department of Chemical Engineering
Process Engineering Advanced Research Lab (PEARL)
Unité de Recherche en Procédés d'Écoulements Industriels (URPEI)
Thesis: "Development of a multiscale model for the design and scale-up of bubble column reactors"

- **ENSIC – École Nationale Supérieure des Industries Chimiques, Nancy, France** (2013-2016)

Engineer Degree equivalent to a B.Ing. Degree in Chemical Engineering

- **Lycée Henri Wallon, Valenciennes, France** (2010-2013)

Classe Préparatoire aux Grandes Écoles scientifiques: a three-year intensive undergraduate program preparing for the competitive exam to enter French Grandes Écoles

Research Interests

- Chemical Reaction Engineering
- Computational Multiphase Fluid Dynamics
- Bubble Column Reactor (ambient conditions)
- Modeling and simulation
- Compartment model
- Finite Volume Method (FVM)
- Transfer phenomena

Expertise

- Computational Fluid Dynamics
- C++, Python, Fortran, VBA
- Numerical methods: finite difference method (FDM), finite element method (FEM), finite volume method (FVM), discrete element method (DEM), Lattice-Boltzmann method (LBM), smoothed-particle hydrodynamics (SPH)
- OpenFOAM
- Gas-liquid two-phase flow

Work Experience

- **PROGEPI**, Nancy, France — R&D Internship — Summer 2015
- **Arc International France**, Arques, France — Internship — Summer 2014

POLYTECHNIQUE MONTRÉAL
LE GÉNIE EN PREMIÈRE CLASSE

Rémi Demol, M.Sc.

Montreal, Quebec H2P 1Y5
remi.demol@polymtl.ca

Research Background

- CO_2 capture of flue gas from a coal-burning station
  - End-of-studies project associated in partnership with EDF (academic project)

- Study of the trans-esterification step in the PTE synthesis. Simulation of a reactor and optimisation of kinetic parameters
  - Reaction Engineering project (academic project)

- Evaluation of physicochemical properties of molecule from their structure
  - Computer Science project (academic project)

Teaching Experience

• **Transport Phenomena,** Polytechnique Montreal, Montreal, QC, Canada	Teaching Assistant	Fall 2016 & Summer 2017
• **Numerical modeling in chemical engineering,** Polytechnique Montreal, Montreal, QC, Canada	Teaching Assistant	Winter 2017