

# Ian E. McDougall

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## Experience

Praxair, Tonawanda NY

Advanced Process Controls Engineer III

May 2016—May 2018

- Continued deploying new model predictive control (MPC) projects, nine total (see below).
- Supported MPC controllers in the Scandinavian region.
- Taught systems topics at biennial internal training.
- Continued support and maintenance responsibilities of previous role.

Praxair, Tonawanda NY

Advanced Process Controls Engineer II

Jul 2013—Apr 2016

- Developed and deployed MPC to improve efficiency at cryogenic air separation plants globally:
  - Identified models of plant operation from historical data.
  - Programmed controller behavior in simulation.
  - Installed controllers on site and created operator HMIs.
  - Tuned controllers after feedback from stakeholders and observing real-world behavior.
- Simplified computer build process using PowerShell scripts and Hyper-V.
- Supported the rollout of the new build process globally.
- Supported networking and systems issues globally.
- Upgraded and maintained several older MPC controllers.
- Configured training simulations for biennial internal training.

University of Massachusetts Lowell, Lowell MA

Research Assistant

Jan 2012—Jul 2013

- Interpreted and manipulated large rheological data sets.
- Learned and documented use of specialized rheology software.
- Wrote Perl scripts to convert rheological data formats. <https://github.com/iemcd/rheology>
- Published: McDougall, I., N. Orbey, and J. M. Dealy, "Inferring meaningful relaxation spectra from experimental data," J. Rheol. **58**, 779 (2014) <http://dx.doi.org/10.1122/1.4870967>

## Education

University of Massachusetts Lowell, Lowell MA

BSE Chemical Engineering, Mathematics Minor

May 2013

## Skills

Languages: JavaScript, R, PowerShell, MATLAB, Perl, bash, VBA, BASIC

Software: Aspen DMC+, GE iFix, Hyper-V, COMSOL Multiphysics, Simulink, Aspen Plus, Matrikon, SIMCA P+, Microsoft Office, Microsoft Visio

General: Data Analysis, Statistics, Process Control, Chemistry, Programming, Process Engineering, Design of Experiment, Process Simulation, Distillation, OPC