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.

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

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