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Ian E. McDougall

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Experience

SICPA Securink Corp   Springfield VA
Senior Process Engineer   Jul 2021—Nov 2024
- Installed new process historian in existing ink and 10,000-liter varnish plants.
- Supported the commissioning and commercialization of new 20,000-liter varnish plant.
- Maintained, researched, documented, and upgraded 40-year-old processes and utilities.
- Addressed operator concerns about ergonomics and safety through engineering interventions.
- Programmed PLCs, HMIs, batch recipes, standalone controllers, and other devices as needed.

Washington Metropolitan Area Transit Authority (WMATA)   Washington DC
Mechanical Controls Engineer   Jun 2019—Jun 2021
- Updated design criteria, specifications, sequences of operation, and CAD drawings for the control of industrial and office HVAC, sewage, drainage, and other rail systems.
- Reviewed contract submittals for projects with budgets from $50 million to $2.8 billion.
- Inspected new and rehabilitated rail assets to ensure standards compliance and functionality.
- Supported maintenance personnel with troubleshooting of equipment in the field.
- Modified PLC ladder logic and HMI programs to operate more reliably and add capability.

Praxair, Inc.   Tonawanda NY
Advanced Process Controls Engineer   Jul 2013—May 2018
- Deployed model predictive control (MPC) to improve process efficiency and reliability at nine cryogenic air separation plants globally, saving an average $300k/year each.
- Simplified software upgrades for about 200 MPC installations with PowerShell and Hyper-V.
- Configured and demonstrated SCADA and MPC simulations for biennial internal training.
- Supported networking and systems issues globally.
- Monitored and maintained MPC performance in the Scandinavian region.

University of Massachusetts Lowell   Lowell MA
Research Assistant   Jan 2012—Jul 2013
- Interpreted and manipulated large rheological data sets.
- Learned and documented 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