ERIC THIBODEAU

Eric.Thibodeau@gmail.com

EDUCATION

McGill University, Montreal, Quebec May 2012 - January 2015
Master's of Materials Engineering (GPA: 4.0/4.0)
Thesis: Modelling the Molar Volume and Electrical Conductivity of Oxide Melts

McGill University, Montreal, Quebec September 2008 - May 2012
Bachelor of Materials Engineering (GPA: 3.9/4.0) - Dean's Honour List

WORK AND RESEARCH EXPERIENCE

5N Plus Inc. January 2015 - Present
Process Metallurgist - R&D *Montreal, QC and Tilly, Belgium*

· Process design, optimization, and troubleshooting.
· Process costing (feasibility and existing installations).
· Experiment design and analysis (lab and industrial scale).
· Experience with both research and production responsibilities.

McGill University May 2012 - January 2015
Master's Research Student - Master's Thesis *Montreal, QC*

· Modelled the bulk physical properties (molar volume and electrical conductivity) of oxide melts.
· Presented research at MS&T 2013 with a focus on glass technology.
· Presented research at annual consortium meetings and provided associated bi-annual progress reports
· Funded by an FQRNT Master's Research Scholarship and a consortium of 9 companies.

McGill University May 2012 - January 2015
Master's Research Student - Miscellaneous Projects and Experience *Montreal, QC*

· Provided consulting expertise on the direct reduction of iron ore (literature review).
· Presented a model/research on zone refining to LS-Nikko based on an undergraduate research project.
· Performed a thermodynamic examination and optimization of the Dy-Sn and Sn-Tb systems.
· Instructed clients on the use of the FactSage thermodynamic software package.
· Acted as a teaching assistant for MIME 212, Engineering Thermodynamics.

Hatch Ltd. September 2011 - December 2011
Process Engineering Intern *Montreal, QC*

· Developed and benchmarked a crushing circuit and presented options to the client.
· Performed mass balance and heat balance calculations in addition to process simulations (METSIM).
· Drafted preliminary process flow diagrams using MicroStation.
· Completed a database restructuring and automation project using VBA for QIT-Fer et Titane.

Pratt & Whitney Canada May 2011 - September 2011
Materials Engineering Intern *Montreal, QC*

· Performed fractographic analysis on aluminium, steel, titanium, and nickel based super alloys.
· Linked microstructural and fractographic observations with mechanical response of test samples.
· Aided colleagues with engineering projects relating to material selection and compatibility.
· Funded in part by an NSERC - Undergraduate Student Research Award.

CANMET Materials Technology Laboratory January 2010 - May 2010
Materials Engineering Intern *Ottawa, ON*

· Optimized heat treatment conditions for rapidly solidified heat resistant cast Al-Si alloys.
· Performed mechanical property tests and organized the testing schedule.
· Statistically optimized the heat treatment parameters as a function of composition
· Published in the Proceedings of the 26th ASM Heat Treating Society Conference and Exposition.

McGill University May 2010 - December 2010
Materials Engineer *Montreal, QC*

· Developed a method of coupling a stirling engine with a heat pipe to recover low grade heat.
· Created engine plans (AutoCAD) and aided in its construction in collaboration with machinists.
· Presented at REGAL Students' Day in Quebec City and at McGill (Summer Undergraduate Research).
· Funded in part by an NSERC - Undergraduate Summer Research Award.

PUBLICATIONS

· Eric Thibodeau, Aimen E. Gheribi, and In-Ho Jung, "A Structural Molar Volume Model for Oxide Melts Part I: Li2O-Na2O-K2O-MgO-CaO-MnO-PbO-Al2O3-SiO2 MeltsBinary Systems", Metallurgical and Materials Transactions B, 2016, 47 (2), pp. 1147-1164.
· Eric Thibodeau, Aimen E. Gheribi, and In-Ho Jung, "A Structural Molar Volume Model for Oxide Melts Part II: Li2O-Na2O-K2O-MgO-CaO-MnO-PbO-Al2O3-SiO2 MeltsTernary and Multicomponent Systems", Metallurgical and Materials Transactions B, 2016, 47 (2), pp. 1165-1186.
· Eric Thibodeau, Aimen E. Gheribi, and In-Ho Jung, "A Structural Molar Volume Model for Oxide Melts Part III: Fe Oxide-Containing Melts", Metallurgical and Materials Transactions B, 2016, 47 (2), pp. 1187-1202.
· Eric Thibodeau and In-Ho Jung, "A Structural Electrical Conductivity Model for Oxide Melts", Metallurgical and Materials Transactions B, 2016, 47 (1), pp. 355-383.
· Eric Thibodeau, "Modeling the molar volume and electrical conductivity of oxide melts", Thesis - McGill University, December 2014.

SCHOLARSHIPS AND AWARDS

· FQRNT Master's Research Scholarship (2012 - 2014)
· Netzsch Student Award (2013)
· Graduate Excellence Award (2012)
· Birk's Silver Medal (2012)
· NSERC - USRA - Pratt & Whitney Canada (2011)
· Stuart Wisdom Scholarship (2011)
· NSERC - USRA - McGill University (2010)
· W. H. Howard Scholarship (2009)
· Dr M. L. Hersey Award (2008)

SKILLS

Technical & Laboratory Skills

· Mechanical testing (tensile strength, hardness, toughness, etc.).
· Characterization (optical, SEM, XRD, etc.).
· Sample preparation (mounting, grinding, polishing, etching, etc.).
· Sample analysis (atomic absorption spectroscopy, titration, etc.).
· Experience writing technical reports and presenting research.

Computer Skills

- Extensive experience with Microsoft Office Suite (Word, Excel, PowerPoint, Outlook, and Access).
- Basic programming and scripting experience with VBA, R, C++, Fortan, and Perl.
- Familiar with METSIM, JKSimFloat, FactSage, and various other modelling tools.
- Experience with AutoCAD, MicroStation, among other drafting software.

ACTIVITIES AND INTERESTS

Swimming, biking, and motorcycling