

Philip D. Bulsink

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Master's Candidate in Chemistry

SKILLS SUMMARY

- Large and abstract problem solving abilities developed through years of research experience
- Experienced in physical and computational research methods
- Strong report writing and oral presentation skills
- Comfortable on aggressive learning curves

EDUCATION

University of Ottawa

Ottawa, ON

Master's Candidate

September 2012 – August 2014

Thesis: "*Rhenium^I Terdentate Compounds: Theoretical and Experimental Investigations*"

Supervisors: Dr. Darrin Richeson & Dr. Tom Woo

University of Waterloo

Waterloo, ON

Honours Science Chemistry, Co-op, Music Minor

September 2007 – April 2012

Undergraduate Thesis: "*Solid Sample Analysis by Microplasma Optical Emission Spectroscopy*"

Supervisor: Dr. Vasilli Karanassios

Relevant Courses and Labs:

Scientific Programming - University of Ottawa

Computational Molecular Dynamics - University of Waterloo

PUBLICATIONS

Transforming the chemistry of Re^I to access the Elusive Pincer Geometry

- Bulsink, P., Korobkov, I., Woo, T., Richeson, D. *CSC2013 Inorganic Division Poster Symposium*, **2013**

Low-temperature selective catalytic reduction of NO_x with NH₃ over Mn-containing catalysts

- Stanciulescu, M., Caravaggio, G., Dobri, A., Moir, J., Burich, R., Charland, J.-P., Bulsink, P. *App. Catal. B: Env.*, **2012**, 123-124, 229-240.

Novel Catalysts for NO_x Reduction with Reductants Produced In-Situ

- Caravaggio, G., Stanciulescu, M., Burich, R., Scheier, B., Bulsink, P. *DEER Conference*, **2010**

AWARDS

Dean's Honour Roll

University of Ottawa, University of Waterloo

2011 - Present

- Achieved and maintained greater than 80% academic average

Graduate Student Poster Award

Canadian Chemistry Conference & Exhibition, CSC2013

May 2013

- Recognition award for top graduate student poster in the Inorganic Chemistry division presented at the annual Canadian Society of Chemists' conference

Recognition Award

IETS, CanmetENERGY, Natural Resources Canada

2012

- Recognition of outstanding dedication and achievement through collaboration

Aileen Proudfoot Award

CanmetENERGY, Natural Resources Canada

August 2011

- Awarded to the top co-op student. Graded through supervisor recommendation and term report

WORK EXPERIENCE

DeNO_x Group, CanmetENERGY, Natural Resources Canada

Ottawa, ON

Research Assistant

May 2010 – August 2012

- Assisted with the research into homogeneous catalysts for the removal of NO and NO₂ from lean burn diesel engine exhaust
- Characterized active acid sites on catalysts using TPD and developed software for data analysis
- Developed a monolith loading procedure for catalyst support in exhaust streams
- Assisted with literature searches of new DeNO_x articles as well as preparing our own articles for submission
- Set up a new on-line mass spectrometer including software & hardware integration with other instruments

Supervisor: Dr Maria Stanculescu

Kinectrics, Inc.

Etobicoke, ON

Analytical Chemist

September – December 2009

- Performed various routine analytical analysis, involving the use of spectrophotometers, nephelometers, conductivity probes, pH meters, and other instruments, as well as wet chemical techniques
- Developed and implemented new analytical methods as required, with proper documentation
- Handled and gained experience with radioactive samples
- Adhered to stringent ISO 17025 and ISO 14000 specifications, and 10 CFR 50 Appendix B if needed

Supervisor: Dr. Andreas Rudolph

Characterization Lab, CanmetENERGY, Natural Resources Canada

Ottawa, ON

Analytical Chemist

January – April 2009

- Used various analytical instruments to perform analysis on solid and liquid fuel samples
- Designed and implemented a software based quality control monitoring system for the entire laboratory
- Diagnosed and repaired scientific instruments, and performed routine maintenance

Supervisor: Maria Pemberton

ACTIVITIES & INTERESTS

Laboratory TA

University of Waterloo, University of Ottawa

September 2011 – Present

- Assisted with instructing first and second year chemistry students in proper laboratory practices
- Ensured students worked in a safe manner
- Explained importance and rationale for procedures and techniques
- Marked reports and administered grades

Residence Don

Waterloo, ON

St. Jerome's University (University of Waterloo)

May – August 2009

- Responsible for the wellbeing of 29 first and second year students
- Counsellor peers through personal, social, financial, and academic crises
- Organized floor and residence outings
- Acted as a liaison between students and the Residence Manager

Programming

- Design and develop tools and webapps to make daily work easier
- GitHub profile: <https://github.com/pbulsink>

Music

Tuba Player

- Past member of Orchestra@UWaterloo Brass Ensemble
- Past member of a brass quintet, performed at receptions for the University of Waterloo
- Perform with other groups as a guest musician on occasion