

# Philip Bulsink

MSc., BSc.,

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## Summary

A master's educated chemist with 2+ years experience programming with Python and R. Searching for an opportunity to pivot my career into a programming or data role, capitalizing upon proven analytical skills, award winning collaboration, and comfort in multi-faceted projects.

## Languages

Python	Advanced	<i>Including Flask, Django, numpy, scipy, and matplotlib.</i>
R	Advanced	<i>Assorted projects available on Github.</i>
L <sup>A</sup> T <sub>E</sub> X	Advanced	<i>Master's thesis &amp; resumé written in L<sup>A</sup>T<sub>E</sub>X, available on Github.</i>
HTML	Intermediate	<i>Some HTML in support of full stack work with Django/Flask.</i>
*nix bash	Intermediate	<i>Utilized bash scripts in MSc. degree on computing cluster.</i>
SQL	Basic	<i>Some experience with SQL gathered while using programming APIs.</i>

## Experience

- 2014–Present **Fuels Chemist**, *Characterization Lab, Natural Resources Canada, Ottawa.*  
Perform method development and analysis of research fuels using modern instrumental techniques.  
Detailed achievements:
- Collaborate with internal and external clients to develop and evaluate international standards for testing of pyrolysis oils.
  - Maintain compliance with ISO9001:2000 quality control standards, including:
    - Management of an active repository of current test operating instructions
    - Development and maintenance of control charting software
- 2015–present **Developer**, *EJPHC, Ottawa, part-time.*  
Full stack development (in Python/Django) of a yet-unreleased online tool for Edward Jenner Public Health Consultants, Ltd. Utilizing test driven development practices, continuous integration, and version control.
- 2013–present **Developer**, *chemcalculator.com, part-time.*  
Full development (in Python/Flask) and maintenance of online tools to simplify calculations common in chemical or physics labs.
- 2010–2011 **Research Assistant (Co-op)**, *DeNO<sub>x</sub> Group, Natural Resources Canada, Ottawa.*  
Research of catalysts for cleaning diesel engine emissions. Custom built instrumentation and analysis software for studies.

## Education

- 2012–2015 **Masters in Chemistry**, *University of Ottawa*.  
thesis *Exploring the Chemistry of Re<sup>(I)</sup>: Physical and Theoretical Investigations*  
supervisors Dr. Darrin Richeson & Dr. Tom Woo  
description Laboratory based synthesis and characterization of novel photocatalysts. The mechanism of reaction is studied with the help of new Python tools on a large computing cluster.
- 2007–2012 **Honours Chemistry, Co-op, Music Minor**, *University of Waterloo*.

## Honours and Distinctions

- 2011–2014 Dean's Honour Roll *University of Waterloo, University of Ottawa*  
2014 Teaching Assistant Award of Excellence *University of Ottawa*  
2013 Graduate Student Poster Award *Canadian Society of Chemistry*  
2012 Collaboration Award *CanmetENERGY, Natural Resources Canada*

## Select Publications

- Bulsink, P. "Exploring the Chemistry of Re<sup>(I)</sup>: Physical and Theoretical Investigations" *University of Ottawa Thesis* **2015**
- Stanciulescu, M., Bulsink, P., Caravaggio, G., Nossova, L., Burich, R. "NH<sub>3</sub>-TPD-MS study of Ce effect on the surface of Mn- or Fe-exchanged zeolites for selective catalytic reduction of NO<sub>x</sub> by ammonia", *App. Surface Sci.*, 300, pp. 201-207, **2014**.
- Bulsink, P., Korobkov, I., Woo, T., Richeson, D. "Transforming the chemistry of Re<sup>I</sup> to access the Elusive Pincer Geometry", *CSC Inorganic Division Poster Symposium*, **2013**.
- Stanciulescu, M., Caravaggio, G., Dobri, A., Moir, J., Burich, R., Charland, J.-P., Bulsink, P. "Low-temperature selective catalytic reduction of NO<sub>x</sub> with NH<sub>3</sub> over Mn-containing catalysts", *App. Catal. B: Env.*, 123-124, pp. 229-240, **2012**.

## Volunteer Activities

- 2015–present **Chair, Outreach Committee**, *Calvin Christian Reformed Church, Ottawa*.  
Chair of outreach committee, promoting internal and external events and initiatives. Introduced program to discern needs of local community, in partnership with other local organizations. Member of church Board of Directors.
- 2014–2015 **Chair, Transitional Team**, *Calvin Christian Reformed Church, Ottawa*.  
Chaired committee leading discussions and assisting acting pastors through transitioning to new lead pastor. Hosted open forums, guided discussions and submitted recommendations to Board of Directors.
- 2013–present **Co-Founder, Director**, *Giving Refugees Hope in Uganda, Ottawa*.  
Co-founder and director of local charity supporting refugees in Kampala, Uganda. Organize fundraisers, administer projects, designed & built website.