

# Andrew W. Fisher

MASc in Civil Engineering, EIT

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## Summary of Qualifications

**Experienced** in the design of reinforced concrete and steel structures, gained through MASc dissertation and course projects

**Well-versed** in engineering software including finite element program VecTor2, sectional analysis program Response-2012, SAP2000, MATLAB, Excel Macros, and AutoCAD

**Effective** technical communication skills, including report writing and presenting, refined during roles as a Project Coordinator and Teaching Assistant

**Confident** in managing multiple projects; demonstrated by involvement in extra-curricular leadership roles while maintaining academic excellence

**Authentic** personality with a keen interest in contributing to the social environment of the office

## Education

**2013 - 2016** **Master of Applied Science**, Civil Engineering, University of Toronto

*Dissertation: Shear Performance of Heavily Reinforced High-Strength Concrete Coupling Beams*

*Supervisors: Professor Michael P. Collins and Professor Evan C. Bentz*

*Certificate of Accomplishment in the Graduate Professional Skills Program*

**2008 - 2013** **Bachelor of Applied Science**, Honours Civil Engineering (Co-op) with Distinction, Management Science Option, University of Waterloo

*Certificate in Structural Engineering from the Department of Civil & Environmental Engineering*

*Certificate of Accomplishment in the Waterloo Student Leadership Program*

## Professional Experience

**Sep 2013 - Dec 2015** **Teaching Assistant**, Structures and Materials, Department of Civil Engineering, University of Toronto

- Mentored over 30 students on how to make informed engineering based decisions that apply academic theory to practical design problems, resulting in the highest final exam average out of the other seven student sections
- Average student evaluation was 6.47, 6.65, and 6.36 out of 7 from 2013 to 2015 consecutively

**May - Aug 2013 & Jan - Apr 2012** **Technical Project Coordinator**, RWDI Consulting Engineers, Guelph, ON

- Conducted over 45 cladding wind load and wind-induced structural load studies for buildings around the globe
- Consistently met deadlines set by the Project Manager by effectively coordinating project deliverables with wind tunnel technicians and graphics modelers that focused on eliminating workload bottlenecks
- Strengthened technical writing skills by drafting reports for the Project Manager and client that summarized wind loads for use in the structural design

**Sep - Dec 2012** **Bridge Research Assistant**, Ministry of Transportation (MTO) Bridge Office, St. Catharines, ON

- Modelled a damaged Highway 402 bridge using S-FRAME and MIDAS software programs in order to analyze the bridge response under traffic loading
- Verified the accuracy of the model by performing on-site load tests that measured the bridge behaviour

**May - Aug 2011**     **Municipal Engineering Assistant**, SCS Consulting Group Ltd., Markham, ON

- Developed a strong foundation of AutoCAD experience by drafting road cross-section details, traffic management plans, and stormwater management layouts

**Sep - Dec 2010**     **Engineering Project Assistant**, Con Cast Pipe, Guelph, ON

- Designed and configured 14,000 tonnes of precast concrete pipeline products—15% of department output—as per land development drawing specifications and CSA Design Standards

## Technical Projects

**Sep 2013 - Feb 2016**     **Shear Performance of Heavily Reinforced High-Strength Concrete Coupling Beams**, MSc Dissertation, University of Toronto

- Designed, constructed, and tested to failure four full scale, high-strength concrete coupling beams which verified the occurrence of load-induced side cover spalling and its effect on the ultimate shear capacity
- Evaluated the CSA and ACI code design provisions and showed that the limits imposed by the ACI code result in an over-conservative prediction of the coupling beams' shear strengths

**Jan - Apr 2014**     **Seismic Design Proposal for a Steel Frame Building**, Earthquake Engineering, University of Toronto

- Collaborated with four teammates to complete the detailed seismic design of concentrically braced and moment resisting frames using principles of capacity design specified in the NBCC-2010 standard
- Verified the seismic design with a response spectrum and nonlinear time history analysis using SAP2000

**May - Aug 2013**     **The Influence of Tube Transfer Functions on Wind Tunnel Test Data**, RWDI, Guelph, ON

- Analyzed 18 wind studies and determined the impact of using post-processing transfer functions on raw wind tunnel test data
- Presented research findings and recommendation to modify use of these functions to the RWDI Project Director and Loads and Effects Group

## Leadership Experience

**Sep 2013 - Sep 2015**     **Vice-President**, Civil Engineering Graduate Student Association, University of Toronto

- Driving force behind revitalizing the association through governance and financial reform; receiving the Gordon Cressy Student Leadership Award as recognition for these contributions

**Jan - Apr 2013**     **Editor-in-Chief**, The Iron Warrior Engineering Newspaper, University of Waterloo

- Successfully recruited and managed an Editorial Board of 20 volunteers in order prevent the organization from dissolving due to lack of interest
- Fostered an environment geared toward succession planning by pairing new and experienced volunteers, and creating a detailed transition document

**Feb 2011 - Feb 2013**     **Finance & Sponsorship Captain**, CSCE Concrete Toboggan Competition, University of Waterloo

- Created a \$30,000 budget by recruiting \$20,000 in corporate sponsorship—the largest in team history—that achieved the goal of sending all team members to the competition at no personal cost

**May 2011 - Aug 2012**     **Vice-President Internal**, Engineering Society, University of Waterloo

- Recruited over 100 Event Directors and actively mentored their planning and advertising of 60 different events