Viet Le

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Education

Northeastern University — Boston, MA
Ph.D. Candidate (Passed Qualifying Exam on April 12, 2018) - GPA: 3.72 — *Sept. 2016 – TBD*
President of Northeastern Graduate Structural Engineering Association (NGSEA) — *Oct. 2018 – Present*

University of Massachusetts Lowell — Lowell, MA
M.S. in Civil and Environmental Engineering (Structural Engineering) - GPA: 4.00 — *Sept. 2015 – May 2016*
B.S. in Civil and Environmental Engineering - GPA: 3.98 — *Sept. 2011 – May 2015*

Professional and Research Experience

Northeastern University — Boston, MA
Structural Engineering Graduate Research Assistant — *September 2016 - Present*

- Developed a performance based engineering framework for the analysis of vertical structures subjected to non-stationary wind loads from thunderstorm downbursts and tornadoes
- Conducted wind tunnel experiments to physically simulate the non-stationary outflows and their effects on a tall building model using a high frequency force balance

Structural Engineering Teaching Assistant — *September 2017 - May 2019*

- Provided assistance for Steel Design and Materials and Measurements courses. Graded homework and lab reports, lead lectures and labs, and held office hours for students

GCP Applied Technologies — Cambridge, MA
Research Intern — *June 2016 - August 2016*

- Performed image analysis and data clustering techniques for the improvement of quality control for concrete mixes and the mitigation of the environmental impact of concrete production

University of Massachusetts Lowell — Lowell, MA
Structural Engineering Research Assistant — *May 2013 - May 2016*

- Involved in the multiphysical nondestructive evaluation of cementitious composites using microwave imaging radar, ultrasonic testing, dielectric measurements with a contact probe, and an unmanned aerial vehicle (UAV)

Software Skills

- **Proficient/Working Knowledge**: MATLAB, Microsoft Office, Python, LaTeX, C++
- **Basic Knowledge**: ANSYS Fluent, OpenFOAM, AutoCAD, LabView

Awards and Honors

- **Northeastern University** - College of Engineering Dean's Fellowship — *May 2016*
- **American Concrete Institute (ACI)** - Kumar Mehta Scholarship — *May 2016*
- **U.S. Department of Energy** - Integrated University Program Fellowship — *May 2015*

Publications and Presentations

Peer-Reviewed Journal Publications

First Author

- Le, V.; Caracoglia, L. (2019). "Life-cycle cost analysis of a monopole structure subjected to tornadic wind loads." *ASCE Journal of Structural Engineering. Under review.*
- Le, V.; Caracoglia, L. (2019). "Generation and characterization of a non-stationary flow field in a small-scale wind tunnel using a multi-blade flow device." *Journal of Wind Engineering and Industrial Aerodynamics.* 186: 1-16.
- Le, V.; Caracoglia, L. (2018). "Computationally efficient stochastic approach for the fragility analysis of vertical structures subjected to thunderstorm downburst winds." *Engineering Structures.* 165: 152-169.

Co-Author

- Yu, T.; Twumasi, J.O.; Le, V.; Tang, Q.; D'Amico, N. (2017). "Surface and subsurface remote sensing of concrete structures using synthetic aperture radar imaging." *ASCE Journal of Structural Engineering.* 143 (10): 04017143.

Conference Papers and Presentations

First Author

- Le, V.; Caracoglia, L. (2018). "Preliminary investigation of failure probability for a monopole, point-like structure subjected to tornado wind loads." *Under review for*: *The 15th International Conference on Wind Engineering 2019*, Beijing, China.
- Le, V.; Caracoglia, L. (2018). "Performance-based assessment of tall buildings subjected to thunderstorm downburst loads using the Wavelet-Galerkin approach." Presented at: *Engineering Mechanics Institute (EMI) Conference 2018*, Massachusetts Institute of Technology, Cambridge, MA, USA.
- Le, V.; Caracoglia, L. (2017). "A preliminary examination of structural fragility for a vertical cantilever structure subjected to thunderstorm downburst loading." Full paper presented and found in: *Proceedings of the 13th Americas Conference on Wind Engineering (ACWE13) Conference*, University of Florida, Gainesville, Florida, USA.
- Le, V.; Yu, T.; Twumasi, J.O; Tang, Q. (2016). "Sizing and ranging criteria for SAR images of steel and wood specimens." Full paper presented and found in: *2016 SPIE Proceedings Vol. 9804: Nondestructive Characterization and Monitoring of Advanced Materials, Aerospace, and Civil Infrastructure*, Las Vegas, Nevada, USA.
- Le, V.; Yu, T. (2015). "Mass and stiffness estimation using mobile devices for structural health monitoring." Full paper presented and found in: *2015 SPIE Proceedings Vol. 9437: Nondestructive Characterization and Monitoring of Advanced Materials, Aerospace, and Civil Infrastructure*, San Diego, California, USA.

Co-Author

- Twumasi, J.O.; Le, V.; Tang, Q.; Yu, T. (2016). "Quantitative sensing of corroded steel rebar embedded in cement mortar specimens using ultrasonic testing." Full paper presented and found in: *2016 SPIE Proceedings Vol. 9804: Nondestructive Characterization and Monitoring of Advanced Materials, Aerospace, and Civil Infrastructure*, Las Vegas, Nevada, USA.
- Qin, Y.; Twumasi, J.O.; Le, V.; Ren, Y.-J.; Lai, C.P.; Yu, T. (2016). "Roadside IED detection using subsurface imaging radar and rotary UAV." Full paper presented and found in: *2016 SPIE Proceedings Vol. 9823: Detection and Sensing of Mines, Explosive Objects, and Obscured Targets XXI*, Baltimore, Maryland, USA.

Poster Presentations

- Le, V.; Caracoglia, L. (2018). "Performance-based engineering framework for vertical structures subjected to non-stationary wind loads." Poster presented at: *Northeastern University 8th Annual Civil & Environmental Engineering Industry Leadership Night*, November 28, 2018, Northeastern University, Boston, MA, USA.
- Le, V.; Caracoglia, L. (2018). "Investigations on the structural performance of building structures subjected to non-stationary thunderstorm wind loads by wavelet-Galerkin numerical methods." Poster presented at: *2018 Research, Innovation and Scholarship Expo (RISE: 2018)*, April 6, 2018, Northeastern University, Boston, MA, USA.
- Le, V.; Caracoglia, L. (2018). "A MATLAB®-based numerical algorithm for stochastic simulation of structural load, response and damage (MATLAB® SLRD) induced by non-stationary thunderstorm downbursts." Poster presented at: *2018 MathWorks SMART Laboratory Northeastern University Collaboration Day Event*, March 12, 2018, Northeastern University, Boston, MA, USA.