

# Dr Thanh Liem Vo

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## EDUCATION

*The University of New South Wales, Kensington, NSW 2052*

**PhD** 2010-2014

Thesis Title: "Interactions between a rigid retaining wall and unsaturated soils"

**The University of New South Wales, Kensington, NSW 2052**

**MEngSc** 2009-2010

Geotechnical Engineering and Engineering Geology

**The University of Sydney, Darlington, NSW 2008**

**BE (Civil)/BCom** 2002-2007

## EMPLOYMENT

*The University of New South Wales, Kensington, NSW 2052*

**Research Associate** 2014-2017

*Coffey Geotechnics, Chatswood, NSW 2067*

**Geotechnical Engineer** 2007-2010

## PUBLICATIONS

### Peer Reviewed International Journals

1. Yi, T., Vo, T., Hossein, T. & Russell, A. (2018 – in press), "Influence of suction on plate load test on unsaturated silty sands", *Journal of Geotechnical and Geoenvironmental Engineering*. Accepted for publication on 05/01/2018.
2. Vo, T. & Russell, A. R. (2017), "Stability of curvilinear slopes in unsaturated soils", *Computers and Geotechnics*, v. 57, no. 4, pp. 543-556
3. Vo, T. & Russell, A. R. (2017), "Interaction between retaining walls and unsaturated soils in experiments and using slip line theory", *Journal of Engineering Mechanics*, v. 143, no. 4, DOI: 10.1061/(ASCE)EM.1943-7889.0001187
4. Vo, T. & Russell, A. R. (2016), "Bearing capacity of strip footings on unsaturated soils by the slip line theory", *Computer and Geotechnics*, v. 74, pp. 122-131
5. Vo, T., Taiebat, H. & Russell, A. R. (2016), "Interaction of a rotating rigid retaining wall with an unsaturated soil in experiments", *Géotechnique*, v. 66, pp. 366-377
6. Vo, T., Yang, H. & Russell, A. R. (2016), "Cohesion and suction induced hang-up in ore passes", *International Journal of Rock Mechanics and Mining Sciences*, vol. 87, pp. 113-128
7. Vo, T. & Russell, A. R. (2014), "Slip line theory applied to a retaining wall-unsaturated soil interaction problem", *Computer and Geotechnics*, v. 55, pp. 416-428
8. Vo, T. & Russell, A. R. (2013), "Unsaturated soil interacting with a rotating model wall", *International Journal of Physical Modelling in Geotechnics*, v. 13, no. 1, pp. 63-78

### Conference Proceedings

9. Vo, T. & Russell, A. R. (2018), "Slip line analysis of axisymmetric retaining wall interacting with unsaturated soil", in *Proceedings of the 1<sup>st</sup> International Conference on Geomechanics and Geoenvironmental Engineering (ICGMGE)*, Sydney, Australia, 20-22 November 2017
10. Vo, T. & Russell, A. R. (2018), "Rigid retaining wall interacting with unsaturated soils in axial symmetry", in *Proceedings of the 4<sup>th</sup> Congrès International de Géotechnique – Ouvrages – Structures*, pp. 775-785
11. Vo, T. & Russell, A. R. (2016), "Bearing capacity of strip footings on unsaturated soils by the slip line theory", 3<sup>rd</sup> European Conference on Unsaturated Soils, Paris, France, 12-14 Sep, *E3S Web of Conferences*, vol. 9, 05004 (2016), DOI: 10.1051/e3sconf/20160905004
12. Vo, T. & Russell, A. R. (2015), "Interaction between a rigid retaining wall and an unsaturated soil", in *Proceedings of EMI 2015 – Engineering Mechanics Institute Conference*, Stanford University, USA, 16-19 June 2015, paper no. 463
13. Vo, T. & Russell, A. R. (2014), "Slip line theory extended to unsaturated soils and applied to

	<p>the retaining wall-unsaturated soil interaction problem", in <i>Unsaturated Soils: Research and Applications - Proceedings of the 6th International Conference on Unsaturated Soils, UNSAT 2014</i>, pp. 1807-1812</p> <p>14. <u>Vo, T.</u> &amp; Russell, A. R. (2014), "Development of facility and testing procedures to investigate retaining wall-unsaturated soil interactions", in <i>Unsaturated Soils: Research and Applications - Proceedings of the 6th International Conference on Unsaturated Soils, UNSAT 2014</i>, pp. 1715-1720</p> <p>15. <u>Vo, T.</u> &amp; Russell, A. R. (2012), "Interaction between unsaturated soil and a rigid retaining wall using the method of characteristics", in <i>the 10<sup>th</sup> World Congress on Computational Mechanics (Book of Abstracts), WCCM 2012</i>, Sao Paulo, Brazil, 8-13 July 2012</p> <p><b>Manuscripts in preparation</b></p> <p>16. <u>Vo, T.</u>, Russell, A. R &amp; Sigh, K. (2018), "The cone indentation test in unsaturated soils", <i>Géotechnique</i>, (submission expected S1 2018)</p> <p>17. <u>Vo, T.</u> &amp; Russell, A. R. (2018), "Stability charts of the sidewall of collapsed sinkholes", <i>Computers and Geotechnics</i> (submission expected S1-S2 2018)</p>	
<b>TEACHING EXPERIENCE</b>		
	<p><i>The University of New South Wales, Kensington, NSW 2052</i>  <b>Postdoctoral Teaching Assistant</b>  Civil Engineering Practice, Advanced Topics in Geotechnical Engineering</p>	<b>2017</b>
	<p><b>Guest Lecturer</b>  Advanced Foundation Engineering</p>	<b>2015</b>
	<p><b>Tutor</b>  Mechanics of Solids, Soil Mechanics, Applied Geotechnics, Civil Engineering Practice</p>	<b>2011-2014</b>
	<p><i>The University of Sydney, Darlington, NSW 2008</i>  <b>Tutor</b>  Soil Mechanics</p>	<b>2005</b>
<b>SUPERVISION EXPERIENCE</b>		
	<p><i>The University of New South Wales, Kensington, NSW 2052</i>  <b>Postdoctoral Teaching Assistant</b>  Supervising 4 Master students, Co-supervising 1 Honour thesis student</p>	<b>2017</b>
<b>RESEARCH EXPERIENCE</b>		
	<p><b>Design and Experiments</b></p> <ul style="list-style-type: none"> <li>• Design and manufacture a double cone indentation device to obtain the strength of unsaturated soils rapidly</li> <li>• Characterise the strength of an unsaturated silty sand using the fall cone test</li> <li>• Conduct laboratory tests to obtain the water retention curves of an expansive clay</li> <li>• Conduct laboratory tests to obtain fundamental properties of an ore: index tests, osmotic, pressure plate and 200 mm triaxial tests</li> <li>• Conduct a series of 1 g model tests involving a rigid strip footing interacting unsaturated soils</li> <li>• Conduct a series of 1 g model tests involving a rigid retaining wall interacting with unsaturated soils</li> <li>• Conduct laboratory tests to obtain mechanical and hydraulic properties of a silty sand: index tests, MIP porosimetry, osmotic, pressure plate and triaxial tests</li> <li>• Collaborate with PhD supervisor and professional staff to modify and commission geotechnical instruments: earth pressure cell, VW piezometer, TC suction sensor, displacement transducer and PIV technique</li> </ul>	<b>2010-2017</b>
	<p><b>Numerical Analyses</b></p> <ul style="list-style-type: none"> <li>• Develop design charts for unsaturated earth pressure problems: retaining wall, strip footing, circular footing, conical foundation, collapsed sinkhole and curvilinear slope stability</li> <li>• Develop finite difference codes to solve the slip line governing equations in plane strain and axial symmetry</li> <li>• Develop finite difference code to solve dynamic and quasi-static earth pressure problems: rigid wall-elastic unsaturated soil interaction, Newmark</li> </ul>	<b>2010-2017</b>

	<ul style="list-style-type: none"> <li>sliding block analysis, broken back retaining wall</li> <li>Develop finite element limit analysis code (lower bound) to solve the strip footing problem</li> <li>Apply the methods of discontinuous stress and velocity fields to solve the problem of cohesion and suction induced hang-up in ore passes, and the problem of seismic-induced slope instability</li> </ul>	
<b>INDUSTRY EXPERIENCE (COFFEY GEOTECHNICS, AUSTRALIA)</b>		
	<b>Site Investigation</b> <ul style="list-style-type: none"> <li>Supervision of drilling and piling rigs, floating and jack-up barges</li> <li>Logging of soil samples and rock cores</li> <li>Conducting geotechnical in situ tests: DCP, CPT, SPT, Vane shear, Packer pumping test</li> </ul>	<b>2007-2009</b>
	<b>Geotechnical Instrumentation</b> <ul style="list-style-type: none"> <li>Installation of geotechnical instruments: inclinometer, extensometer, tiltmeter, piezometer and monitoring well</li> <li>Tunnel dilapidation mapping</li> <li>Vibration monitoring</li> </ul>	<b>2007-2009</b>
	<b>Foundation Design</b> <ul style="list-style-type: none"> <li>Slope stability analysis</li> <li>Pile foundation design</li> </ul>	<b>2009-2010</b>
<b>LANGUAGES</b>		
	<ul style="list-style-type: none"> <li>Vietnamese (native)</li> <li>English (fully proficient)</li> <li>French (B1), Chinese (HSK2)</li> </ul>	
<b>PROFESSIONAL MEMBERSHIPS</b>		
	<ul style="list-style-type: none"> <li>Australian Geomechanics Society</li> <li>Engineers Australia</li> </ul>	