# Thang Pham, Ph.D., P.E. UTRGV – Civil Engineering Dept. | Tel.: 956-665-3130 | E-mail: thang.pham@utrgv.edu

# Education

PhD, 2009	University of Colorado
	Geotechnical Engineering, GPA 3.94
	Dissertation: "Investigating Composite Behavior of Geosynthetic-reinforced Soil
	(GRS) Mass," PhD Supervisor: Dr. Jonathan Wu; June 2009
	Findings were incorporated into the Federal Highway Administration
	(FHWA) report entitled "Composite Behavior of Geosynthetic Reinforced
	Soil Mass" and were incorporated into FHWA's Geosynthetic Reinforced
	Soil Integrated Bridge System Interim Implementation Guide (2014).
	Publication Number: FHWA-HRT-10-077.
M.Sc., 2001	National University of Civil Engineering, Vietnam
	Major: Civil Engineering
	Thesis: "Deep foundations subjected to horizontal movement of soil"
B.Sc.	National University of Civil Engineering, Vietnam
	Major: Civil Engineering

# Experience

University of Texas Rio Grande Valley, Dept of Civil Engineering, Sep 2016 – Current Lecturer, Sep. 2016 – August 2017

Assistant Professor, Sep. 2017 - current

Total course taught: Ten (10) https://www.coursicle.com/utrgv/professors/Thang+Pham/

*Undergraduate Courses:* Mechanics of Solids, Statics, Structural Analysis, Foundation Design, Geotechnical Engineering Lab, Earthwork Engineering and Design, CE Material Lab, and Senior Design.

*Graduate courses (developed):* Advanced Geotech Engineering, Slope Stability and Retaining Wall.

## Vietnam Institute for Building Science and Technology (IBST), Ministry of Construction

IBST is the largest civil engineering research institution in Vietnam with about 600 researchers and staff members (including about 50 PhDs), with 15 sub institutes and 10 laboratories.

Deputy General Director, Nov. 2014 – June 2016

- Conducted research for national and local projects.
- Advised doctoral and master students.
- Taught geotechnical engineering short courses for PEs.
- Served as instructor for Vietnam Professional Engineering licenses.
- Served as principal investigator for contracts related to civil engineering works.
- Served as consultant for multiple civil engineering projects such as designing, supervising, monitoring, and conducting lab and in situ test/experiments.
- Served as advisor for new technologies and developing Vietnamese codes and standards.

## **IBST Institute of Geotechnical Engineering**

Director, Jan. 2010 - June 2015;

## Deputy Director, July 2009 - December 2009;

Researcher, Designer and Site Project Manager, June 2009 - July 2009 and 1993 - 2004.

- Conducted research for Vietnamese national projects, research institutions and foundations.
- Advised PhD and master's degree students.
- Taught short courses on geotechnical engineering topics.
- Instructed preparatory courses for the Vietnam Professional Engineering License Exam.
- Principal Investigator (PI) for various civil engineering projects.
- Consultant for civil engineering projects requiring expertise in designing, supervising, and conducting labs and in situ test/experiments.
- Designer of many structures and foundations for buildings and tall buildings.
- Site Project Manager.

#### University of Colorado (2004-2009)

- *Graduate Research Assistant*, 2006–2008. Conducted field-scale plane strain tests of soil-geosynthetic composites for Reinforced Soil Center and Turner-Fairbank Highway Research Center, FHWA.
- *Graduate Teaching Assistant* Assisted instructors of Geotechnical Engineering Laboratory and Geotechnical Engineering CE 3708.

# Turner-Fairbank Highway Research Center, Federal Highway Administration, Washington DC (2008)

- Graduate Research Associate:
  - ✓ Developed testing procedure for large-scale specimens taken from reinforced soil masses.
  - ✓ Conducted analytical study and performed finite element analysis of GRS composites.
  - ✓ Developed a process to deal with large soil specimens under planned strain conditions with different confining pressures.

# Honors and Awards

- *First Place* GeoWall National Student Competition, 2022, Charlotte, NC *as Faculty Advisor*.
- Certificate of Appreciation in Dedication and Service as Faculty Advisor of GeoWall Team (2022 National Champions), from the Dean of College of Engineering and Computer Science, UTRGV. April 2022.
- **Second Place** GeoWall National Student Competition, 2020, Minneapolis, MN- *as Faculty Advisor*.
- Distinguished Scholar, UTRGV 4, 2022 The best paper presentation.
- Award for Excellence of Service for Vietnam Ministry of Construction Labor Union, Vietnam, 2012.
- First Prize (2008), Third Prize (1995), and Second Prize (1996) in Youth Research Competition, Vietnam Institute for Building Science and Technology, Vietnam,
- Civil Engineering Graduate Student Scholarship, University of Colorado, 2008.

- Vietnam Government Scholarship for Excellent PhD Students, 2004-2008.
- Bronze Medal, *National Mechanics Olympiad*, Vietnam, 1992.

As advisor for student awards:

- UTRGV distinguished Scholarship 2022 for Imdadul Islam
- CE Excellent Award for graduate students the year of 2022 for Abraham Reyna
- CE Excellent Award for graduate students the year of 2020 for Wasif Zaman.

# Publications

#### Journal and Peer-reviewed Publications:

1. Pham, T., Rahmaninezhad, M., Palma, A., Phan, T., and Vu, T. "Analytical Method for Predicting Lateral Facing Deflections of Geosynthetic-Reinforced Soil Abutment Walls." Geo-Congress 2023. (Submitted).

2. Rahmaninezhad, M., Pham, T., Soto, A., Vu, T., and Alanis, A., "Combined Effects of Corrosion and Migration of Fines on Stability of Mechanically Stabilized Earth Walls." Geo-Congress 2023. (Submitted).

3. Gui, M., Phan, T., and Pham, T. "Mechanical responses of soil geosynthetic composite (SGC) mass under working and failure loads." Geotextiles and Geomembranes Journal. (Submitted).

4. Nguyen, T., Pham, T., Vu, T., Malik, A., and Dinh, D., (2022). "Predicting Tensile Strength for Pre-Stressed Driven Piles." Applied Science Journal. (Under 2<sup>nd</sup> round review).

5. Pham, T., Palma, A., Nguyen, T., Vu, T., (2022). "Later movement of pile group under construction load and excavation." Geo-Congress, ASCE 2022. https://doi.org/10.1061/9780784484029.001

6. Pham, T., Zaman, W., and Vu, T., (2021). "Modeling Triaxial Testing with Flexible Membrane to Investigate Effects of Particle Size on Strength and Strain Properties of Cohesionless Soil", *Journal of Transportation Infrastructure Geotechnology*, Springer. https://doi.org/10.1007/s40515-021-00167-6

7. Phan, T. Gui, M., Pham, T., (2021). "Numerical simulation of compaction load on stress deformation behavior of soil geosynthetic composite mass" 4th International Conference on. Transportation Geotechnics (ICTG). Chicago, Illinois, USA May 23 - 26, 2021, pp 945-956.

https://doi.org/10.1007/978-3-030-77234-5\_77

https://link.springer.com/content/pdf/10.1007%2F978-3-030-77234-5\_77.pdf

8. Nguyen, T., and Pham, T., (2021). "Several Problems Related to Tensile Stress during the Construction of Prestressed Reinforced Concrete Piles" Journal of Building Science and Technology, 2 (2021) pp. 50-61.

9. Hoffman, P., Pham, T., (2020). "The Search for Internal Stability in Reinforced Soil" *Journal of Transportation Infrastructure Geotechnology*, Springer 7, 378-389. <u>https://doi.org/10.1007/s40515-020-00127-6</u> 10. Pham, T., Nguyen., T., and Hung, T., (2020). "Lateral Movement of Pile Group due to Excavation and Construction Loads" Journal of Building Science and Technology, No 3/2020, pp. 56-67.

11. Gui, M., Phan, T., and Pham, T., (2020). "Impacts of Compaction Load and Procedure on Stress-Deformation Behaviors of a Soil Geosynthetic Composite (SGC) Mass: A case study" Applied Science Journal. <u>https://doi.org/10.3390/app10186339</u>

12. Hoffman, P., Pham, T., Wu, JTH., (2019). "Experimental and theoretical studies on the ultimate bearing capacity of geogrid-reinforced sand" Geotextiles and Geomembranes, 47(5), 692-694. <u>https://doi.org/10.1016/j.geotexmem.2019.103488</u>

13. Phan, T. Gui, M., Pham, T., (2019). "Numerical simulation analysis of stress-deformation of soil and geosynthetic composite mass: A case study," The 3<sup>nd</sup> International Conference on Transportation Infrastructure and Sustainable Development, (TISDIC 2019) Danang, Vietnam, ISBN: 978-604-82-2893-4, pp 211-219.

14. Pham, T., Nguyen, T., (2019) "Using ash and disposal from thermal power plants to build geosynthetic-reinforced ash and disposal ponds" Journal of Building Science and Technology, No. 1, 2019, pp 44-54.

15. Jonathan T.H. Wu, Peter Hoffman, and Thang Q. Pham, (2018) "Numerical Simulation of Compaction-Induced Stress for the Analysis of GRS Walls under Working Conditions" by S. H. Mirmoradi and M. Ehrlich, Geotextiles and Geomembranes Journal, Elsevier, 46 (2018), pp. 354-365. https://doi.org/10.1016/j.geotexmem.2018.04.016

16. Pham, T., Nguyen, T., Nguyen, N., Tran, T. (2018). "Behavior of Geosynthetic-Reinforced Soil (GRS) Mass under Working Conditions Considering Compaction-Induced Stresses". Hanoi: International conference on the 55th Anniversary of Establishment of Vietnam Institute for Building Science and Technology. ISBN: 978-604-82-2586-5, pp 435-442.

17. N.T. Nguyen, and Pham, Q. T., (2016) "Behavior of reinforced soil walls", Journal of Building Science and Technology, Vietnam, No. 4, 2016, pp. 71-79.

18. Wu, J.T.H. and Pham, T.Q. (2015). Closure to "Load-Carrying Capacity and Required Reinforcement Strength of Closely Spaced Soil-Geosynthetic Composites." Journal of Geotechnical and Geoenvironmental Engineering, ASCE, 141(3): 07014036. https://doi.org/10.1061/(ASCE)GT.1943-5606.0001203

19. Park, J-H., Chung, M., Pham, Q.T., and Tran, B.V. (2015) "Axial capacity of nonwelded steel-PHC composite pile based on pile load tests." International Conference -HanoiGeo 2015, 27-28 Nov. 2015, Proc., Engineering Geology in Response to Climate Change and Sustainable Development of Infrastructure, pp. 149-153.

20. Wu, T.H.J., Yang, K-H, Mohamed, S., Pham, Q.T, Chen, R-H. (2014) "Suppression of soil dilation–a reinforcing mechanism of soil-geosynthetic composites," Journal of Transportation Infrastructure *Geotechnology*, 1(1), pp. 68-82. https://doi.org/10.1007/s40515-014-0003-6

21. Wu, T.H.J. and Pham, Q. T. (2013) "Load-carrying capacity and required reinforcement strength of closely-spaced soil-geosynthetic composites." Journal of Geotechnical and

Geoenvironmental Engineering, ASCE, 139(9), pp. 1468–1476. https://doi.org/10.1061/(ASCE)GT.1943-5606.0000885

22. Daisuke Ito, Mizoguchi, E., Kien, P.H., Pham, Q. T. (2013) "Study on the in-situ pile load test and bearing capacity characteristics of steel piles with wings installed in soil cement column." Proc., Geotechnics for Sustainable Development–Geotec, Hanoi pp. 513-522.

23. Pham, Q.T (2013) "A reinforcing mechanism of soil-geosynthetic composites for retaining walls and bridge abutments." Proc., 50th year Celebration of IBST, Vietnam, pp. 54-65.

24. Wu, T.H. J., Adams, M., Pham, Q. T., Lee, S.H., and Ma, Y.C. (2012) "A generic Soilgeosynthetic composite test." International Journal of Geotechnical Engineering, 6(1), pp. 103-116. <u>https://doi.org/10.3328/IJGE.2012.06.01.103-116</u>

25. Pham, Q.T, (2012) "Behavior of geosynthetic-reinforced soil mass for walls and bridge abutments." Journal of Building Science and Technology, Vietnam, No. 2, pp. 41-48.

26. Pham, Q.T, Nam, G., Nguyen, T.N., Trinh, C.V. (2011) "Large settlement and differential settlement of apartments in Hanoi and recommendations for preventive measures." Journal of Building Science and Technology, Vietnam, No. 3, pp. 46-49.

27. Wu, T.H.J., C., Pham, Q.T, and Adams, T.M (2011) "Required minimum reinforcement stiffness and strength in a geosynthetic-reinforced soil (GRS) wall." *International Journal of Geotechnical Engineering*, 5(4), pp. 395-404. <u>https://doi.org/10.3328/IJGE.2011.05.04.395-404</u>

28. Wu, T.H.J. and Pham, Q.T. (2010) "An analytical model for calculating lateral movement of a geosynthetic-reinforced soil (GRS) wall with modular block facing." *International Journal of Geotechnical Engineering*, 4(4), pp. 527-535. <u>https://doi.org/10.3328/IJGE.2010.04.04.527-535</u>

29. Wu, T.H.J., and Pham, Q. T. (2010) "An analytical model for evaluation of compactioninduced stresses in geosynthetic-reinforced soil (GRS) mass." *International Journal of Geotechnical Engineering*, 4(4), pp. 549-556. <u>https://doi.org/10.3328/IJGE.2010.04.04.549-556</u>

30. Wu, T.H.J., Lee, K.K., and Pham, Q.T. (2006) "Allowable bearing pressure of bridge sills on GRS abutments with flexible facing." *Journal of Geotechnical and Geoenvironmental Engineering*, American Society of Civil Engineers, ASCE, 132(7), pp. 830-841. <u>https://doi.org/10.1061/(ASCE)1090-0241(2006)132:7(830)</u>

## **Other Conference Publications**

31. Imdadul Islam and Thang Pham (2022). "Investigating Strength and Strain Properties of Geosynthetic Reinforced Soil Composite Using Discrete Element Method." Presented at the Engaged Scholar Symposium of the UTRGV Conference April 2022.

32. Abraham Reyna, and Thang Pham (2022). "Behavior of Narrow Mechanically Stabilized Earth Walls with Secondary Reinforcement". Presented at UTRGV E-Week February 2022. Received Excellent Award.

33. Wasif Zaman, and Thang Pham (2019). "Discrete-Element Modeling of The Effectiveness of Using Geogrid as Reinforcement in The Aggregate Base." Presented at the Engaged Scholar Symposium of the UTRGV Conference, November 2019.

34. Pham, T., (2017) "Lateral Earth Pressure and Movement of Geosynthetic Reinforced Soil Walls." *Proc., Sustainable Civil Infrastructure Management & Planning Conference*, Weslaco, TX.

35. Pham, Q. T., Nguyen G. N., Nguyen N. T. (2015) "Codes and standards for geotechnical engineering in Vietnam." VSSMGE-JGS Joint Workshop on Geotechnical Design and Practice, Hanoi, Sep. 24, 2015.

36. Pham, Q.T., Nguyen G.N., Nguyen N.T. (2015) "Damaged buildings caused by large settlement and differential settlement in Vietnam." Advanced Construction Technology Conference, Can Tho, Vietnam.

37. Pham, Q.T. (2009) "Geosynthetic reinforced soil composite." Proc., Conference on Geotechni*cal Engineering VSSMGE*, Vietnam.

## **Presentations**:

## National (2):

- 1. Pham, T., Palma, A., Nguyen, T., Vu, T., (2022). "Later movement of pile group under construction load and excavation." Geo-Congress, ASCE 2022. Presented at the GeoCongress at Charlotte, N.C. March 2022.
- Phan, T. Gui, M., Pham, T., (2021). "Numerical simulation of compaction load on stress deformation behavior of soil geosynthetic composite mass" Presented online at the 4th International Conference on Transportation Geotechnics (ICTG), Chicago, Illinois, USA May 2021.

## **Others (11):**

- 3. Phan, T. Gui, M., Pham, T., (2019). "Numerical simulation analysis of stress-deformation of soil and geosynthetic composite mass: A case study," Presented at the 3rd International Conference on Transportation Infrastructure and Sustainable Development, (TISDIC 2019) Danang, Vietnam.
- 4. Imdadul Islam and Thang Pham. "Investigating Strength and Strain Properties of Geosynthetic Reinforced Soil Composite Using Discrete Element Method." Presented at the UTRGV Engaged Scholar Symposium April 2022.
- 5. Abraham Reyna, and Thang Pham (2022). "Behavior of Narrow Mechanically Stabilized Earth Walls with Secondary Reinforcement". Presented at UTRGV E-Week, February 2022.
- 6. Wasif Zaman, and Thang Pham (2019). "Discrete-Element Modeling of The Effectiveness of Using Geogrid as Reinforcement in The Aggregate Base." Presented at UTRGV Engaged Scholar Symposium of the Conference, November 2019.
- 7. Pham, T., (2017) "Lateral Earth Pressure and Movement of Geosynthetic Reinforced Soil Walls." Presented at the Sustainable Civil Infrastructure Management & Planning Conference, Weslaco, TX, November 2017.

- 8. Pham, Q. T., Nguyen G. N., Nguyen N. T. (2015) "Codes and standards for geotechnical engineering in Vietnam." VSSMGE-JGS Joint Workshop on Geotechnical Design and Practice, Hanoi, September 2015. (Keynote speaker)
- 9. Pham, Q.T., Nguyen G.N., Nguyen N.T. (2015) "Damaged buildings caused by large settlement and differential settlement in Vietnam." Advanced Construction Technology Conference, Can Tho, Vietnam, May 2015. (Invited speaker).
- Park, J-H., Chung, M., Pham, Q.T., and Tran, B.V. (2015) "Axial capacity of nonwelded steel-PHC composite pile based on pile load tests." International Conference on Engineering Geology in Response to Climate Change and Sustainable Development of Infrastructure – Hanoi, Vietnam, Nov. 2015.
- Pham, Q.T (2013) "A reinforcing mechanism of soil-geosynthetic composites for retaining walls and bridge abutments." Proc., 50th year Celebration of IBST, Vietnam, November 2013. (Keynote speaker).
- 12. Daisuke Ito, Mizoguchi, E., Kien, P.H., Pham, Q. T. (2013) "Study on the in-situ pile load test and bearing capacity characteristics of steel piles with wings installed in soil cement column." Geotechnics for Sustainable Development International Conference – Geotec Hanoi, November 2013.
- 13. Pham, Q.T. (2009) "Geosynthetic reinforced soil composite." Presented at the Conference on Geotechnical Engineering VSSMGE, Vietnam, November 2009.

# Selected Projects

- Pereira, E., Kang, J., Cheng, C., and Pham, T. (2022), "Pathways to NRCS and Academic Careers to Civil Engineering and Agriculture Students (PANACEAS)", USDA, ongoing 750K project.
- Pham, Q.T. (as Principal Investigator PI), Nguyen. G. N., (2015), "Investigation and Assessment of using Glass-fiber-reinforced Pipes for Water Supply and Drainage in Vietnam and Recommendations for Controlling Quality of GFR Pipes," Ministry Projects, Vietnam 2015.
- Pham, Q.T. (as PI), Nguyen G. N., (2014) "Investigation and assessment of Song-Da water supply pipelines," Hanoi, Vietnam, 2014.
- Pham, Q.T. (as PI), "Investigation and Assessment of Song-Da Water Supply Pipelines," Vietnam, 2014.
- Wu. T.H.J., Pham, Q.T., Adams, M. (2013) "Composite behavior of geosyntheticreinforced soil mass." Report No. FHWA-HRT-10-077, July 2013.
- Pham, Q.T. (as PI), Doan, T.T., Tran, M.N., Nguyen, G.N. (2013), "Planning Vietnam Regulations and Standards for Soil Investigations and Survey up to 2030." Ministry Project, Vietnam, 2013.
- Pham, Q.T. (as PI), Tran, H.T., Trinh, V. C. (2013), "Studying Technical Problems for Soil Improvement in the Petro-Gas Projects." Vietnam, 2013.

- PI, "Modifying Several Vietnam Geotechnical Engineering Standards, 2010-2016.
- Co-PI, "Developing Large-scale Specimens for Reinforced Soil Composite." Turner-Fairbank Highway Research Center, FHWA, VA, USA, 2008.
- Co-PI, "Practice Suspended Foundation in Thick Soft Clay." Ministry project, 2001-2003.
- Co-PI, "Design and Construct Excavations in Complex Soil Condition." Ministry Project, 1997-1999.
- Co-PI, "Deep Excavations in the Narrow Areas." Ministry project, 1995-1997.
- Co-PI, "Technical Problems for Underground Construction in Vietnam Urban Areas." National project, 1995-1998.

## Contributor to Vietnamese Standards as PI and co-PI:

- TCVN 9361:2012 "Foundation Work–Construction and Acceptance," Vietnamese National Standards. (co-PI)
- TCVN 9393:2012 "Piles–Standard Test Method in situ for Piles under Axial Compressive Load," Vietnamese National Standards. (PI)
- TCVN 10667:2014 "Spun Concrete Piles Work–Construction, Check and Acceptance", Vietnamese National Standards. (PI)
- TCVN 2016 "Trenchless Applications of Ductile Iron Pipe Systems Product Design and Installation", Vietnamese National Standards. (PI part 1 and co-PI part 2)
- TCVN 2016 "Trenchless Construction and Testing of Drains and Sewers", Vietnamese National Standards. (PI part 1 and co-PI part 2)
- TCVN 2016 "General Requirements for Components Specifically Designed for Use in Trenchless Construction of Drains and Sewers", Vietnamese National Standards. (PI part 1 and co-PI part 2)

# **Professional Service**

- Member of Editorial Board of the *Journal of Transportation Infrastructure Geotechnology, USA,* ISSN: 2196-7202 (print version), ISSN: 2196-7210 (electronic version) (2012 – present).
- Member of Editorial Board of *Vietnam Journal of Building Science and Technology*. (2010 2016).
- Member, Vietnam National Committee for Construction Quality Control, (2012 2016). This national committee of ten leading geotechnical engineers is in charge of Quality of Critical Government Projects, such as major power plants, airports, harbors, major bridges, roads, and government projects.
- Deputy Secretary, Vietnam Society for Soil Mechanics and Geotechnical Engineering (VSSMGE).
- Chair/member, PhD Geotechnical Engineering Committee in IBST, Vietnam (1/2010–2016).

- Co-Chair at International Conference "Advanced Solutions in Civil Engineering and Transportation," Vietnam-Japan, Hanoi, June 6, 2015.
- Chair, Youth Scientists Conference in 2010, 2012, 2015, IBST, Hanoi.
- Chair, 50<sup>th</sup> Anniversary of IBST Conference, Hanoi 11/2013.
- Chair and Co-Chair, Conferences of Geotechnical Committee in IBST, (1/2010–2016).
- Member, Geotechnical Engineering Committee for *Graduate School* of National University of Civil Engineering, Vietnam (2010–2016).
- Member, Science Committee of IBST, (1/2010–2016).
- Member, Vietnam Ministry of Transportation Project Committee (1/2011–2016).

*Professional Organizations:* American Society of Civil Engineers, Texas Society of Professional Engineers, and The United States Universities Council on Geotechnical Education and Research.