**Curriculum Vitae**

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Department of Civil Engineering

Faculty of Civil Engineering

Nha Trang University

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**EDUCATION**

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| --- | --- | --- | --- |
| **Duration** | **University** | **Degree** | **Major** |
| 2000 – 2005 | Hong Bang University | Bachelor | Roads and Bridges Construction |
| 2005 – 2007 | HCMC University of Technology | Master | Highways and Urban Roads Construction |
| 2015 – 2019 | Chonnam National University | Doctor | Civil and Environmental Engineering |

**RESEARCH INTERESTS**

# Seismic analysis for structures

# Structural Analysis by FEM

# Nondestructive Evaluation (Infrared thermography, ultrasound…)

# Reliability-based design for civil engineering

# UAV monitoring and surveying

# Foundation analysis, Soft soil treatment

# Highways and Bridges Structures

**RESEARCH EXPERIENCE**

**Research Fields**

# Seismic analysis for structures

# Nondestructive Evaluation (Infrared thermography, ultrasound…)

# Reliability-based design for civil engineering

# UAV monitoring and surveying

**Research Projects**

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| **Project** | **Duration** | **Program’s owner** |
| TR2019-13-02: Xây dựng sổ tay hướng dẫn phân tích công trình kháng chấn bằng phương pháp phổ phản ứng theo TCVN 9386:2012 | 2019-2020 | Nha Trang University |
| Development of probabilistic seismic reliability analysis and seismic fragility estimation methods for container cranes and wharves considering their dynamic interaction and uncertainty | 2017-2020 | National Research Foundation of Korea |
| Development of performance-based seismic design criteria for port cranes and pipelines | 2017-2018 | Korea Institute of Marine Science & Technology Promotion |
| Reliability-based design for port structures (Breakwater) | 2017-2018 | Korea Institute of Marine Science & Technology Promotion |
| Development of a multi-scale monitoring system for integrated management of small and medium-sized bridges in Honam region | 2016-2020 | Korea Agency for Infrastructure Technology Advancement |
| Development of the numerical model for evaluating cracked concrete structure | 2016-2017 | Chonnam National University |
| Development of a probabilistic reliability estimation algorithm and a reliability-based design computer program of the offshore wind power turbine tower-mono pile foundation system | 2015-2016 | National Research Foundation of Korea |
| A remote sensing study on the improvement of thermal insulation efficiency of Facilities for the creation of an Eco-friendly Yeosu Industrial Complex | 2015-2016 | Chonnam Green Environment Support Center |

**TEACHING RESPONSIBILITY**

# Undergraduate:

# Pre-stressed Concrete Structures

# Concrete Bridge design

# Construction Engineering

# Construction Organization

# Geology Engineering

# Soil Mechanics

# Hydrology and Hydraulics Engineering

# Graduate: None

**PUBLICATIONS and PRESENTATIONS**

# Journals:

1. Q. H. Tran, J. Huh, N. S. Doan, V. H. Mac and J.-H. Ahn, "Fragility Assessment of a Container Crane under Seismic Excitation Considering Uplift and Derailment Behavior," *Applied Sciences,* vol. 9, p. 4660, 2019.
2. J. Huh, V. B. Nguyen, Q. H. Tran, J.-H. Ahn and C. Kang, "Effects of Boundary Condition Models on the Seismic Responses of a Container Crane," *Applied Sciences,* vol. 9, p. 241, 2019.
3. J. Huh, V. H. Mac, Q. H. Tran, K.-Y. Lee, J.-I. Lee and C. Kang, "Detectability of Delamination in Concrete Structure Using Active Infrared Thermography in Terms of Signal-to-Noise Ratio," *Applied Sciences,* vol. 8, no. 10, p. 1986, 2018.
4. Q. H. Tran, J. Huh, V. B. Nguyen, C. Kang, J.-H. Ahn and I.-J. Park, "Sensitivity Analysis for Ship-to-Shore Container Crane Design," *Applied sciences,* vol. 8, p. 15, 2018.
5. Q. H. Tran, J. Huh, V. H. Mac, C. Kang and D. Han, "Effects of rebars on the detectability of subsurface defects in concrete bridges using square pulse thermography," *NDT and E International,* vol. 100, pp. 92-100, 2018.
6. Q. H. Tran, J. Huh, V. B. Nguyen, A. Haldar, C. Kang and K. M. Hwang, "Comparative Study of Nonlinear Static and Time-History Analyses of Typical Korean STS Container Cranes," *Advances in Civil Engineering,* Vols. 2018, Article ID 2176894, p. 13 pages, 2018.
7. Q. H. Tran, J. Huh, C. Kang, B. Y. Lee, I.-T. Kim and J.-H. Ahn, "Detectability of Subsurface Defects with Different Width-to-Depth Ratios in Concrete Structures Using Pulsed Thermography," *Journal of Nondestructive Evaluation,* vol. 37, no. 32, pp. 1-10, 2018.
8. C. Kang, J. Huh, Q. H. Tran and K. Kwak, "Evaluation of Self-Healing Performance of PE and PVA Concrete Using Flexural Test," *Advances in Materials Science and Engineering,* vol. Article ID 6386280, p. 10 pages, 2018.
9. Q. H. Tran, D. Han, C. Kang, A. Haldar and J. Huh, "Effects of Ambient Temperature and Relative Humidity on Subsurface Defect Detection in Concrete Structures by Active Thermal Imaging," *Sensors,* vol. 17, no. 8, p. 1718, 2017.
10. J. Huh, Q. H. Tran, A. Haldar, I. Park and J.-H. Ahn, "Seismic Vulnerability Assessment of a Shallow Two-Story Underground RC Box Structure," *Appl. Sci.,* vol. 7, no. 7, p. 735, 2017.
11. J. Huh, Q. H. Tran, J. Lee, D. Han and S. Yim, "Experimental Study on Detection of Deterioration in Concrete Using Infrared Thermography Technique," *Advances in Materials Science and Engineering,* Vols. 2016, Article ID 1053856, p. 12, 2016.
12. H. Q. Tran, B. V. Nguyen, C. Kang and J. Huh, "Seismic Behavior of a Jumbo Container Crane in the Low Seismicity Zone Using Time-History Analyses," *International Journal of Civil, Environmental, Structural, Construction and Architectural Engineering,* vol. 11, no. 12, pp. 1588 - 1591, 2017.
13. Q. H. Tran, J. Huh, T. L. Nguyen and D. Han, "Investigation on the land surface temperature of industrial complexes and the non-destructive assessment of plant structures using an IR camera," *Chonnam National University Journal,* vol. 15, pp. 87-95, 2015.
14. T. L. Nguyen, Q. H. Tran, J. Huh and D. Han, "Land Surface Temperatures of Industrial Complexes in Jeonnam Using Landsat 7 ETM+ Satellite Images," *Journal of the Korean Regional Science Association (KRSA),* vol. 31, no. 3, pp. 97-110, 2015.
15. V.S. Bạch, X.T. Phạm, and Q.H. Trần, “Đánh giá độ tin cậy cầu dàn thép bằng mô phỏng Monte Carlo,” *Tạp chí Cầu đường,* vol. 3, pp. 21-24, 2020.
16. Q. H. Trần and V. P. Đỗ, "Phân tích kháng chấn ga tàu điện ngầm bằng phương pháp đẩy tĩnh phi tuyến theo phổ phản ứng thiết kế," *Tạp chí Cầu đường,* vol. 7, pp. 30-35, 2019.
17. Trần Quang Huy và Đặng Quốc Mỹ, “Xác định và đánh giá khuyết tật cọc khoan nhồi bằng phương pháp xung siêu âm truyền qua hai ống,” *Tạp chí Cầu Đường,* tập 10, pp. 29-38, 2015.
18. Trần Quang Huy, “Ứng dụng phương pháp phun nước áp lực hỗ trợ công tác hạ cừ ván,” *Tạp chí Cầu đường,* pp. 12-18, 2011.
19. Trần Quang Huy và Bùi Trường Sơn, “Đặc điểm ứng suất - biến dạng xung quanh cống tròn chôn sâu ở Khu vực Thành phố Hồ Chí Minh,” *HCMUT 10,* pp. 386-392, 2007.

# Presentations:

1. V. H. Mac, J. Huh, Q. H. Tran, V. B. Nguyen, C. Kang and J.-H. Ahn, "Effects of heating time on estimating parameters of delaminations in concrete structures using active infrared thermography," in *2018 ICSCE*, Hanoi, Vietnam, 24-25 Nov. 2018.
2. V. B. Nguyen, Q. H. Tran, C. Kang and J. Huh, "The Effect of Boundary Condition to Total Base Shear of Container Crane," in *KSCE*, Gyeongju, 17-19 Oct 2018.
3. V. H. Mac, J. Huh, Q. H. Tran, C. Kang and D. Han, "Application of Signal-to-Noise Ratio Technique on Detectability of Delaminations in Concrete using Active Infrared Thermography," in *KSCE*, Gyeongju, 17-19 Oct 2018.
4. Q. H. Tran, J. Huh, C. Kang, V. H. Mac and D. Han, "Investigation of the Characteristics of Subsurface Non-planar Defects Using Infrared Thermography as A Nondestructive Evaluation Tool," in *KSCE*, Gyeongju, 17-19 Oct 2018.
5. Q. H. Tran, C. Kang, V. H. Mac, D. Han and J. Huh, "A Comparison of the Pulsed Thermography and Pulse Phase Thermography in Concrete Inspection," in *KSMI Fall 2018*, Jinju, 3-5 Oct. 2018.
6. V. H. Mac, J. Huh, Q. H. Tran, C. Kang and J.-I. Lee, "Detection of Shallow Delaminations with Different Sizes in Concrete Structures using Passive Thermography," in *KSMI Fall 2018*, Jinju, 3-5 Oct. 2018.
7. V. B. Nguyen, Q. H. Tran, C. Kang, J. W. Kim and J. Huh, "Probabilistic Assessment of the Uplift Occurrence of Container Crane under Seismic Excitation," in *KSMI Fall 2018*, Jinju, 3-5 Oct. 2018.
8. Q. H. Tran, J. Huh, C. Kang, K. Kwak and J. Ahn, "Assessment of Lateral Thermal Diffusion of Impulse Thermography Method in Measuring Size of Non-Planar Defects," in *The Ninth International Conference on Bridge Maintenance, Safety and Management (IABMAS 2018)*, Melbourne, Australia, 9-13 July 2018.
9. J. Alam, J. Huh, Q. H. Tran, C. Kang and D. Kim, "Seismic risk assessment of offshore wind turbine considering the site specific hazard in Korea (only Abstract)," in *The 3rd International Water Safety Symposium*, Incheon, South Korea, 19-23 Jun. 2018.
10. C. Kang, T.-W. Kim, Q. H. Tran and J. Huh, "Primary Variables in Numerical Analysis of Concrete Fracture Behavior," in *KCI 2018 Spring*, Changwon, South Korea, 2-4 May 2018.
11. Q. H. Tran, C. Kang, V. B. Nguyen, J. Huh and J. Park, "Effect of Reinforcing Steel on the Detectability of Defect in Concrete Structure Using Active Infrared Thermography," in *KCI 2018 Spring*, Changwon, South Korea, 2-4 May 2018.
12. Q. H. Tran , C. Kang, D. Han, V. B. Nguyen and J. Huh, "Quantitative Approach of Pulsed Phase Thermography for Detecting Subsurface Defect in Concrete Structures," in *KSMI Sping 2018*, Jeju, South Korea, 18-20 April 2018.
13. V. B. Nguyen, J. Lim, C. Kang, Q. H. Tran and J. Huh, "Behavior of Container Crane under Seismic Load with Uplift," in *KSMI Spring 2018*, Jeju, South Korea, 18-20 April 2018.
14. Q. Tran, V. Nguyen, C. Kang, K. Kwak and J. Huh, "Simplified Method for Seismic Analysis of Gravity Quay Wall with STS Container Crane," in *2018 Spring Geotechnical Engineering Conference*, Yeosu, Jeonnam-do, South Korea, 15 Mar 2018.
15. C. Kang, J. Huh, Q. H. Tran and T.-W. Kim, "Experimental Study on the Crack Depth in Three-point Bendint Test," in *Korea Concrete Institute 2017 Fall Conference*, Nov 2017.
16. D. Han, J. Huh, Q. H. Tran and C. Kang, "Registration of Multi-Temporal Unmanned Aerial Vehicle Images for Facility Monitoring," in *ICGUAVEM 2018 : 20th International Conference on Geomatics, Unmanned Aerial Vehicles and Environmental Mapping*, Bangkok, Thailand, January 18-19, 2018.
17. Q. H. Tran and J. Huh, "Impulse Thermography for Health Monitoring of Reinforced Concrete Structures," in *1st International Symposium on Earthquake Engineering and Disaster Reduction (ISEEDR 2018)*, Hangzhou, China, 31 Jan, 2018.
18. Q. H. Tran, V. B. Nguyen, V. S. Bach and J. Huh, "Assessment of Pseudo-Static Method for Seismic Analysis of Jumbo Container Crane with Verified by Time History Acceleration Analysis," in *1st Korea-Vietnam Joint International Symposium*, Nha Trang, Vietnam, 22 Jan, 2018.
19. Q. H. Tran, V. B. Nguyen and J. Huh, "A Comparative Study on Equivalent Lateral Force and Time History Analysis for Ship-to-Shore Container Crane," in *1st International Symposium on Earthquake Engineering and Disaster Reduction (ISEEDR 2018)*, Hangzhou, China, 31 Jan, 2018.
20. Q. H. Tran and J. Huh, "Seismic Fragility Assessment of A Two-Story Underground RC Tunnel using Ground Response Acceleration Method," in *1st International Symposium on Earthquake Engineering and Disaster Reduction (ISEEDR 2018)*, Hangzhou, China, 31 Jan, 2018.
21. Q. H. Tran, D. Y. Han and J. Huh, "Health Monitoring of Concrete Structures Using Infrared Thermography," in *1st Korea-Vietnam Joint International Symposium*, Nha Trang, Vietnam, 22 Jan, 2018.
22. H. Q. Tran, J. Huh, K. Kwak and C. Kang, "Nondestructive Testing for Reinforced Concrete Buildings with Active Infrared Thermography," in *19th International Conference on Civil Engineering and Building Materials*, Bangkok, Thailand, 18-19 Dec, 2017.
23. J. Huh, Q. H. Tran and C. Kang, "Comparison Between Equivalent Static and Time History Analyses of a Jumbo Container Crane (in Korean)," in *KSCE 2017 Convention*, Busan, 18-20 Oct. 2017.
24. C. Kang, J. Huh, Q. H. Tran and T.-w. Kim, "Investigation of Flexural Behavior of Concrete Crack Opening with Self-healing using Experimental Bending Test (in Korean)," in *KSCE 2017 Convention*, Busan, 18-20 Oct. 2017.
25. Q. H. Tran, J. Huh, D. Han and C. Kang, "Infrared Thermography Analysis for Delamination of Concrete Using Finite Volume Method," in *KSCE 2017 Convention*, Busan, 18-20 Oct. 2017.
26. Q. H. Tran, C. Kang, D.-Y. Han and J. Huh, "Active Infrared Thermography for Inspection of Reinforced Concrete Structures," in *Korea Institute for Structural Maintenance and Inspection*, Wonkwang University, Iksan, 20-22 September 2017.
27. Q. H. Tran, V. S. Bach, C. Kang and J. Huh, "Seismic Nonlinear Behavior Estimation of Container Cranes Using the Pushover Analysis," in *Korea Ocean Science and Technology*, Busan, Korea, 19-20 April 2017.
28. T. L. Nguyen, Y. G. Byun, D. Y. Han, Q. H. Tran and J. W. Huh, "A UAV Image Stitching method Using Alpha Blending Technique," in *Korean Society of Surveying, Geodesy, Photogrammetry and Cartography*, Yeosu, 4/2017.
29. C. Kang, Q. H. Tran and J. Huh, "Estimating the defective depth of concrete using Square Pulse Thermography considering Atmospheric Temperature," in *Korean Society of Surveying, Geodesy, Photogrammetry and Cartography*, Yeosu, April 2017.
30. Q. H. Tran, C. Kang and J. Huh, "Investigation of Near-surface Delamination for Concrete Structures Using Active Thermography Technique," in *Korea Concrete Institute 2017 Spring Conference*, Jeju, Korea, 10-12 May 2017.
31. Q. H. Tran, C. Kang, J. Huh, D. Han and K.-I. Koh, "Nondestructive Inspection for Concrete using Pulse Square Thermography under Various Ambient Temperatures," in *Korea Institute for Structural Maintenance and Inspection*, Tongmyong University, Busan, 12-14 April 2017.
32. Q. H. Tran, J. Huh, D. Han and J.-H. Ahn, "Inspection of Concrete Deterioration Using Active Infrared Thermography Considering the Influence of Environmental Conditions (Extended abstract)," in *Asian Conference on Engineering and Natural Sciences*, Hokkaido, Japan, January 19-21, 2017.
33. Q. H. Tran, J. Huh, D. Han and J.-H. Lee, "Influence of atmospheric temperature and relative humidity on sub-surface defect detection in concrete structures using Infrared Thermography," in *KSCE 2016 Convention*, Jeju, South Korea, 10/2016.
34. Q. H. Tran, J. Huh, J.-H. Ahn and A. Haldar, "Seismic fragility assessment of a two-story rectangular tunnel using the response acceleration method," in *KSCE 2016 Convention*, Jeju, South Korea, 10/2016.
35. Q. H. Tran, J. Huh, J.-H. Ahn, J.-H. Lee and S. Yim, "Quantitative identification for defective depth in concrete structure using infrared thermography," in *the 5th ISRERM*, Seoul, South Korea, 8/2016.
36. Q. H. Tran, J. Huh, J.-H. Ahn and A. Haldar, "Probabilistic fragility assessment of a two-story rectangular tunnel subjected to earthquake loadings," in *the 5th ISRERM*, Seoul, South Korea, 8/2016.
37. N. T. Linh, T. Q. Huy, J. Huh and D. Han, "Comparison of the land surface temperature between industrial complexes from the satellite image of Landsat 7 ETM+," in *Korean Society for New and Renewable Energy 2015*, 6/2015.
38. J. Huh, Q. H. Tran and D.-Y. Han, "Risk assessment of a floating structure using a unified reliability analysis method," in *KAOSTS 2015*, Jeju, South Korea, 5/2015.
39. J. Huh, Q. T. Huy, T. S. Le and J.-H. Ahn, "Development of fragility curves for seismic evaluation of tunnel structures," in *KSCE - Gwangju-Jeonnam branch 2015*, Dong Shin University, South Korea, 11/2015.