






# Tam Minh Phan

(Ph.D.)

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I am an energetic, ambitious person who has developed a mature and responsible approach to any task that I undertake, or situation that I am presented with. I am excellent in working with others to achieve a certain objective on time with excellence.

## Education

- 2012 – 2017    ◇    **[B.S.] Ho Chi Minh City University of Technology**, Build. and Const. Materials.  
Thesis title: *Designing and Optimizing of Geopolymer Concrete Using Fly Ash.*
- 2017 – 2019    ◇    **[M.S.] Kunsan National University**, Roads and Pavement.  
Thesis title: *A Study on the Healing Performance of Hot Mix Asphalt with Microwave Heating.*
- 2019 – 2023    ◇    **[Ph.D.] Kunsan National University**, Roads and Pavement.  
Thesis title: *Evaluation on Delaying Black Ice and Improving Low-Temperature Properties of Asphalt Mixture Using Micro Encapsulated Phase Change Materials.*

## Skills

- Languages    ◇    Strong reading, writing and speaking for English, beginner level for Korean
- Coding       ◇    Python, MATLAB,  $\text{\LaTeX}$
- Software     ◇    ANSYS, ABAQUS, Autocad, Sketchup, SolidWorks
- Misc.         ◇    Academic research, technical training, development of technical computer program, problem-solving, working under pressure, teamwork

## Projects

- 2017-2019    ◇    Evaluation on healing performance of steel slag modified asphalt concrete
- 2019-2021    ◇    Synthesis of micro-encapsulated phase change materials to delay black ice and improve properties of asphalt concrete
- 2021-now     ◇    Prediction of black ice using weather data and geographic information system data
- 2022-now     ◇    Development on automatic crack and pothole repair using 3D printing technology

## Miscellaneous Experience

### Awards and Achievements

- 2019    ◇    **Poster Presentation**, Transportation Research Board (TRB-98), Washington-DC, USA
- 2021    ◇    **Best Poster Award**, Korea Society Road Engineers Conference (KSRE-2021)
- 2022    ◇    **Oral Presentation**, Transportation Research Board (TRB-101), Washington-DC, USA
  - ◇    **Best Poster Award**, Korea Society Road Engineers Conference (KSRE-2022)
  - ◇    **Best Paper Award**, International Conference for Road Engineers (ICRE-2022)

## Miscellaneous Experience (continued)

### Certification

- 2021     ♦ **Scientific Computing with Python.** Awarded by freeCodeCamp.org  
           ♦ **Data Analysis with Python.** Awarded by freeCodeCamp.org
- 2022     ♦ **MATLAB Programming Techniques.** Awarded by MathWorks Training Service

## Research Publications

### Journal Articles

- 1     **Phan, T. M.**, Jang, M.-S., Seo, J.-W., Yoon, J.-H., Park, D.-W., & Le, T. H. M. (2023). Impact of air voids and environmental temperature of asphalt concrete on black ice. *Road Materials and Pavement Design*, 1–16.
- 2     Kim, Y.-T., Nguyen, T. A., **Phan, T. M.**, & Park, D.-W. (2022). Stripping resistance evaluation of bead coating via hamburg wheel tracking test and image analysis. *International Journal of Highway Engineering*, 24, 47–52.
- 3     Lee, S.-H., **Phan, T. M.**, Lam, M. P., & Park, D.-W. (2022). Effect of volumetric properties on indirect tensile strength and cracking tolerance index of cored asphalt pavement. *International Journal of Highway Engineering*, 24, 39–45.
- 4     Lee, S.-Y., **Phan, T. M.**, & Park, D.-W. (2022). Evaluation of carbon grid reinforcement in asphalt pavement. *Construction and Building Materials*, 351, 128954.
- 5     **Phan, T. M.**, Jang, M.-S., & Park, D.-W. (2022). Black ice prediction model for road pavement using weather forecast data and gis database. *The Baltic Journal of Road and Bridge Engineering*, 14, 63–79.
- 6     **Phan, T. M.**, Le, T. H. M., & Park, D.-W. (2022). Evaluation of cracking resistance of healed warm mix asphalt based on air-void and binder content. *Road Materials and Pavement Design*, 23(1), 47–61.
- 7     **Phan, T. M.**, Park, D.-W., & Kim, H.-S. (2022). Utilization of micro encapsulated phase change material in asphalt concrete for improving low-temperature properties and delaying black ice. *Construction and Building Materials*, 330, 127262.
- 8     **Phan, T. M.**, Nguyen, S. N., Seo, C.-B., & Park, D.-W. (2021). Effect of treated fibers on performance of asphalt mixture. *Construction and Building Materials*, 274, 122051.
- 9     **Phan, T. M.**, Park, D.-W., & Le, T. H. M. (2021). Improvement on rheological property of asphalt binder using synthesized micro-encapsulation phase change material. *Construction and Building Materials*, 287, 123021.
- 10    Le, T. H. M., Park, D.-W., Seo, J.-W., & **Phan, T. M.** (2020). Anti-chemical resistance and mock-up test performance of cement asphalt mortar modified with polymer for ballast stabilizing. *Construction and Building Materials*, 232, 117260.
- 11    Park, D.-W., **Phan, T. M.**, & Kim, Y.-M. (2020). Influence of antistripping additives and rejuvenators on healing performance of moisture-damaged hma. *Advances in Materials Science and Engineering*, 2020.
- 12    **Phan, T. M.**, Park, D.-W., & Kim, H.-S. (2020). Simulation on heat transfer of phase change material modified asphalt concrete for delaying black ice formation. *International Journal of Highway Engineering*, 35–43.
- 13    Le, T. H., Park, D.-W., Park, J.-Y., & **Phan, T. M.** (2019). Evaluation of the effect of fly ash and slag on the properties of cement asphalt mortar. *Advances in Materials Science and Engineering*, 2019.
- 14    Dinh, B. H., Park, D.-W., & **Phan, T. M.** (2018). Healing performance of granite and steel slag asphalt mixtures modified with steel wool fibers. *KSCE Journal of Civil Engineering*, 22(6), 2064–2072.

- 15 **Phan, T. M.**, Park, D.-W., & Le, T. H. M. (2018). Crack healing performance of hot mix asphalt containing steel slag by microwaves heating. *Construction and Building Materials*, 180, 503–511.

## Books and Chapters

- 1 **Phan, T. M.**, Park, D.-W., Le, T. H. M., & Park, J.-S. (2020). Evaluate healing performance of asphalt mixture containing steel slag by using induction and microwave heating. In *Icscea 2019* (pp. 485–491). Springer, Singapore.

## References

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### **Prof. Dae-Wook Park**

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