TEXAS STATE VITA

Please note: For all entries, list most recent items first. Headings without entries may be eliminated, but the heading lettering/numbering should remain consistent with this template.

I. Academic/Professional Background

A. Name: Hyunhwan Kim Title: Assistant Professor

B. Educational Background

Degree	*Year*	*University*	*Major*	*Thesis/Dissertation*
Ph. D.	2016	Texas State University	Material Science Engineering and Commercialization	Characterization of Rubberized Binders with Wax Additives
M. S.	2014	Texas State University	Industrial Technology – Construction	Performance Properties of CRM Asphalt Binders Containing Wax Warm Additives
M. S.	2007	Kangwon National University	Regional Infrastructures Engineering	Evaluation of Rutting and Deformation Strength Properties of Polymer Modified SMA Mixtures
B. S.	2005	Kangwon National University	Regional Infrastructures Engineering	

C. University Experience

Position	*University*	*Dates*
Assistant Professor	Texas State University	September 2020 – Present
Lecturer	Texas State University	January 2017 – August 2020
Graduate Research Assistant	Texas State University	June 2016 - December 2016
Doctoral Instructional Assistant	Texas State University	September 2015 - May 2016
Doctoral Teaching Assistant	Texas State University	September 2014 - August 2015
Graduate Assistant	Texas State University	September 2012 - August 2014
Lecturer	Korea National University of Transportation	September 2009 – June 2012
Graduate Research Assistant	Kangwon National University	March 2007 - February 2011

D. Relevant Professional Experience

Position	*Entity*	*Dates*
Researcher	Institute of Advanced Construction Materials, South Korea	January 2010 – December 2010

E. Other Professional Credentials (licensure, certification, etc.)

Leadership in Energy and Environmental Design (LEED) Green Associate (June 2019)
The License (1st Class) of Civil Engineer: No. 06201110101T (June 2006)

II. TEACHING

A. Teaching Honors and Awards:

- Spring 2019 recognized "The person who had the greatest impact on the success at Texas State University" from Texas State University's Veteran Advisory Council

- Fall 2017 awarded "Favorite Professor" from The Alfred H. Nolle Chapter of the Alpha Chi, National College Honor Society

- Korea National University of Transportation, South Korea
  Presidential Award – The Prize of Excellent Instructor, Fall 2009

B. Courses Taught:

- CSM 3366 Soils and Foundations (2015 - Present)
- CSM 5365 Construction Project Controls (2020 – Present)
- CSM 5366 Soil in Construction (2021 - Present)
- TECH 2351 Statics and Strength of Materials (Spring 2017, Summer 2017, Fall 2017, Spring 2018, Fall 2018, Spring 2019)
- CSM 3367 Mechanical, Electrical, and Plumbing Systems (Spring 2017, Fall 2017, Spring 2023, Spring 2024)
- CSM 4364 Construction Project Management and Scheduling (Spring 2018, Fall 2018, Spring 2019)
- CSM 2342 Construction Materials & Process (Spring 2020)
- MSEC 7103 (Summer 2023 - Present)
- MSEC 7303 (Summer 2023 - Present)
- CSM 5199B (Summer 2022- Present)
- CSM 5399B (Spring 2022 - Present)
- CSM 5399A (Fall 2021 - Present)
- TECH 4397 Special Problems (Spring 2021)

Student course evaluation summary

CSM 3366	In-person								Online
	F 20	S 21	F 21	S 22	F 22	F 23	F 24	S 25	S 24
	4.35	4.16	4.39	4.37	4.10	4.39	4.33	4.43	3.82

CSM 5366	In-person			Online		
	S 22	S 24	S 25	S 22	S 23	S 24
	4.56	4.42	4.65	4.65	4.32	4.29

CSM 5365	In-person		Online			
	F 21	F 22	F 21	F 22	F 24	Su 25
	4.69	4.55	3.85	4.39	4.54	4.44

CSM 3367	In-person	
	S 23	S 24
	3.30	4.32

C. Graduate Theses/Dissertations, Honors Theses, or Exit Committees (if supervisor, please indicate):

Committee member

- Ahmed Ali, MS in Technology Management, Department of Engineering Technology

  Thesis Title: MSCR Characterization of Polymer Modified Binders Containing Wax Additives (May 2018).

- Navid Hemmati, MS of Science in Construction Management, Department of Engineering Technology
  Thesis Title: Evaluation of Petroleum Resin Effectiveness on Asphalt Binder Viscosity (May 2021).

- Shyaamkrishnan Vigneswaran, Ph. D. in Materials Science Engineering and Commercialization
  Dissertation Title: Performance Evaluation of Guss Asphalt Binder: A Comprehensive Study on Properties and Applications (August 2025)

- Md Saiful Islam, MS in Civil Engineering, Ingram School of Engineering
  Thesis Title: Behavior of Transverse Cracks in Continuously Reinforced Concrete Pavement under Environmental Loadings (Augus 2026, Expected).

Supervisor

- Jihyeon Yun, MS in Construction Management, Department of Engineering Technology
  Thesis Title: Laboratory Evaluation of Storage Stability for CRM Asphalt Binders (August 2022)

- Rishab Khanal, MS in Construction Management, Department of Engineering Technology
  Thesis Title: An Evaluation of Concrete Properties of Rigid Pavement: Coefficient of Thermal Expansion and Abrasion Resistance (May 2025)

- Jihyeon Yun, Ph. D. in Materials Science Engineering and Commercialization
  Dissertation Title: Analysis of Storage Stability in Rubberized Asphalt Binders Using Image Processing and Deep Learning Techniques (May 2025)

- Sushmit Sharma Bhattarai, Ph. D. in Materials Science Engineering and Commercialization
  Dissertation Title: Optimizing Pavement Performance through Life-Cycle Cost Analysis and Pavement Asset Management (May 2026, Expected)

- Fereshteh Rahmani, Ph. D. in Materials Science Engineering and Commercialization
  Dissertation Title: Influence of Coarse Aggregate Composition on Concrete Pavement Performance and Microstructural Properties (August 2026, Expected)

D. Courses Prepared and Curriculum Development:

- CSM 5366 Soils in Construction, Curriculum Development, Texas State University.
- CSM 5365 Construction Project Control, Curriculum Development, Texas State University.
- CSM 5365 Construction Project Control, New Course, Texas State University.
- CSM 5366 Soils in Construction, New Course, Texas State University.

E. Funded External Teaching Grants and Contracts:
None

F. Submitted, but not Funded, External Teaching Grants and Contracts:
None

G. Funded Internal Teaching Grants and Contracts:
None

H. Submitted, but not Funded, Internal Teaching Grants and Contracts:
None

I. Other:
Student Accomplishments:
Award:

- Supervisor, Asphalt Road-eo student competition_ 3rd place. Texas Asphalt Pavement Association (TXAPA)/Asphalt Road-eo student competition, TXAPA in Buda, TX.
  Status: Completed. (April 2024).
  Department of Engineering Technology, Texas State University.
  Student(s): Brian McCleary, Ryan Lowe, Truman Patterson, Tyshun Brown,

- Supervisor, Asphalt Road-eo student competition_ 2nd place. Texas Asphalt Pavement Association (TXAPA)/Asphalt Road-eo student competition, TXAPA in Buda, TX.
  Status: Completed. (April 2024).
  Department of Engineering Technology, Texas State University.
  Student(s): Troy Cauley, Floyd Jaster, Matthew O'Driscoll, Ethan Carpenter,

- Supervisor, Asphalt Road-eo student competition_ 2nd place. Texas Asphalt Pavement Association (TXAPA)/Asphalt Road-eo student competition, TXAPA in Buda, TX.
  Status: Completed. (April 2025).
  Department of Engineering Technology, Texas State University.
  Student(s): Brian McCleary, Tyshun Brown, Ashley Herman, Ferial Hamid

III. SCHOLARLY/CREATIVE

A. Works in Print (including works accepted, forthcoming, in press)

1. Books (if not refereed, please indicate)

a. Scholarly Monographs:
None

b. Textbooks:
None

c. Edited Books:
None

d. Chapters in Books:
None

e. Creative Books:
None

2. Articles

a. Refereed Journal Articles (* denotes corresponding author, ^ denotes graduate student):

1. Sharma Bhattarai, S.^, Kisi, K., Dhakal, R. and **Kim, H.***, 2026. Water Supply Megaproject in a Developing Nation: Lessons in Stakeholder Dynamics and Postcompletion Resilience from Prolonged Delays. *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction, ASCE* 18(1), p.05025012.
2. Na, I., Park, H., Yun, J.^, Park, J. D., & **Kim, H.*** 2025. Characterization of Asphalt Binder and Mixture for Enhanced Railway Applications. *Materials*, 18(14), 3265.

3. Subedi, A.^, **Kim, H.**, Lee, M.S. and Lee, S.J., 2025. Thermal Behavior of Concrete: Understanding the Influence of Coefficient of Thermal Expansion of Concrete on Rigid Pavements. *Applied Sciences* (2076-3417), 15(6).

4. Yun, J.^, **Kim, H.H.**, Hemmati, N., Lee, M.S. and Lee, S.J., 2025. Laboratory evaluation of Oil-Extended SBS modified binder. *International Journal of Pavement Research and Technology*, 18(2), pp.381-390.

5. Subedi, A.^, **Kim, H.**, Lee, S.J. and Lee, M.S., 2025. Assessing Abrasion Resistance in Concrete Pavements: A Review. *Applied Sciences*, 15(4), p.2101.

6. Vigneswaran, S., Yun, J.^, Lee, M. S., **Kim, H.**, & Lee, S. J. 2024. Enhancing Asphalt Performance: The Combined Influence of Trinidad Lake Asphalt (TLA) and Styrene–Isoprene–Styrene (SIS) on PG 64-22 Binder. *Applied Sciences*, 14(19), 8939.

7. Cho, J., Kim, C., Kim, J., **Kim, H**, & Yeon, J. 2024. Development of a Data Visualization Program for Changes in Measured Temperature, Humidity, and Pressure inside Concrete. *KSCE Journal of Civil Engineering*, 100042.

8. Vigneswaran, S., Yun, J.^, **Kim, H**, Lee, M. S., & Lee, S. J. 2024. Enhancing Asphalt Binder Performance and Storage Stability with Trinidad Lake Asphalt (TLA). *Applied Sciences*, 14(14), 6023.

9. Yun, J.^, Vigneswaran, S., **Kim, H.**, Lee, M. S., & Lee, S. J. 2024. Laboratory Evaluation of Storage Stability for Asphalt Binder Modified with Crumb Rubber and Styrene–Isoprene–Styrene Depending on Evaluation Factors and Blending Condition. *Materials*, 17(9), 2091

10. Yun, J.^, Bhattarai, S. S., Park, H., **Kim, H.**, & Na, I. H. 2024. Laboratory investigation on storage stability based on physical properties and microstructural image depending on rubber particle size for CRM asphalt binder. *Journal of the Korean Asphalt Institute*, 13(2), 358-371.

11. Ji, B., Bhattarai, S. S.^, Na, I. H. and **Kim, H***, 2023. A Bayesian deep learning approach for rheological properties prediction of asphalt binders considering uncertainty of output. *Construction and Building Materials*, 408, p.133671.

12. Kim, C., Song, Y., Cho, J., **Kim, H** and Yeon, J., 2023. Influence of Temperature–Humidity Sensor Housing Depth on Concrete and Mortar Compressive Strength. *Buildings*, 13(11), p.2762.

13. Yun, J.^, Na, I.H., Choi, P., Ji, B. and **Kim, H***, 2023. Laboratory Evaluation of High-Temperature Properties of Recycled PMA Binders. *Sustainability*, 15(17), p.12744.

14. Yun, J.^, **Kim, H. H.**, Hemmati, N., Lee, M. S. and Lee, S. J., 2023. Laboratory Evaluation of Oil-Extended SBS Modified Binder. *International Journal of Pavement Research and Technology*, pp.1-10.

15. Hemmati, N., Vigneswaran, S., **Kim, H. H.**, Lee, M. S. and Lee, S. J., 2023. Laboratory Evaluation of Asphalt Binders Containing Styrene-Butadiene-Styrene (SBS) and Processed Oil. *Materials*, 16(3), p.1235.

16. Yun, J.^, Choi, H.J., Na, I.H. and **Kim, H. H.***, 2023. Characterization of Base Oil Effects on Aged Asphalt Binders Considering Bicycle Road. *Materials*, 16(2), p.624.

17. Na, I. H., Kim, K. W. and **Kim, H. H.***, 2022. Performance evaluation of modified asphalt mixture on asphalt concrete pave layer track using railway wheel tracking test. *Journal of the Korean Asphalt Institute*, 12(1), pp.108-116.

18. Hemmati, N., **Kim, H.**, Mazumder, M., Lee, S. J. and Lee, M. S., 2022. Laboratory Assessment of Asphalt Binders Containing Petroleum Resin. *International Journal of Pavement Research and Technology*, 15(4), pp.889-898.

19. Yun, J.^, Mazumder, M., Na, I.H., Lee, M. S. and **Kim, H. H.***, 2022. Evaluation of Effect of Thermoplastic Polyurethane (TPU) on Crumb Rubber Modified (CRM) Asphalt Binder. Materials, 15(11), p.3824.

20. Hemmati, N., Yun, J.^, **Kim, H.**, Lee, M. S. and Lee, S. J., 2022. Effect of Processed Oil on Asphalt Binder Properties. *Materials*, 15(11), p.3739.

21. Hemmati, N., **Kim, H.**, Mazumder, M., Lee, S. J. and Jeong, K.D., 2021. Viscosity evaluation of asphalt binders containing petroleum resin. *Journal of the Korean Asphalt Institute*, 11(1), pp.1-14.

22. **Kim, H. H.**, Mazumder, M., Lee, M. S. and Lee, S. J., 2021. Evaluation of Petroleum Resin in Rubberized Asphalt Binder. *Sustainability*, 13(16), p.9319.

23. Mazumder, M., **Kim, H. H.**, Jeong, K.D. and Lee, S. J., 2020. A review on quality control index of new asphalt pavement construction. *Journal of the Korean Asphalt Institute*, 10(2), pp.172-195.

24. Ji, B., Lee, S. J., Mazumder, M., Lee, M. S. and **Kim, H. H.***, 2020. Deep Regression Prediction of Rheological Properties of SIS-Modified Asphalt Binders. Materials, 13(24), p.5738.

25. **Kim, H. H.**, Mazumder, M., Lee, S. J. and Lee, M. S., 2020. Laboratory Evaluation of Sustainable PMA Binder Containing Styrene-Isoprene-Styrene (SIS) and Thermoplastic Polyurethane. *Sustainability*, 12(23), p.10057

26. **Kim, H. H.**, Mazumder, M., Lee, M. S. and Lee, S. J., 2020. Laboratory Evaluation of SBS Modified Asphalt Binder Containing GTR, SIS, and PE. *Advances in Civil Engineering*, 2020.

27. **Kim, H. H.**, Mazumder, M., Lee, S.-J., Lee, M.-S., “Effect of production process on performance properties of warm rubberized binders” *Journal of Traffic and Transportation Engineering*, 6(6), December 2019.

28. Mazumder, Mithil, **Kim, H. H.**, Lee, S.-J., Lee, M. S., "Cost effectiveness of crack treatment methods: a field study." *Journal of Traffic and Transportation Engineering*, 6(6), December 2019.

29. Mazumder, Mithil, **Kim, H. H.**, Lee, S.-J., Lee, M. S., "Crack treatment performance on pavement marking, joint and shoulder lanes in Texas." *Innovative Infrastructure Solutions*, 4(1), December 2019.

30. Mazumder, Mithil, **Kim, H. H.**, Lee, S.-J., Lee, M. S., " Economic Analysis of Crack Treatment Methods Using HDM-III Modeling." *International Journal of Civil Engineering*, 17(11), November 2019, 1739-1751.

31. **Kim, H. H.**, Mazumder, M., Lee, M.-S., Lee, S.-J., "Evaluation of high-performance asphalt binders modified with SBS, SIS, and GTR" *Advances in Civil Engineering*, October 2019.

32. **Kim, H. H.**, Lee, M. S., Lee, S.-J., "Performance evaluation of polymer modified asphalt (PMA) binders containing ground tire rubber (GTR)" *International Journal of Pavement Research and Technology*, March 2019, 215-222.

33. Mazumder, M., **Kim, H. H.**, Lee, S.-J., "Comparison of field performance of crack treatment method in asphalt pavement of Texas" *Journal of Transportation Engineering, ASCE,* 145(1), March 2019.

34. Mazumder, M., Sriraman, V., **Kim, H. H.** and Lee, S. J., "Quantifying the environmental impacts of crack sealing and filling treatment in hot mix asphalt pavement" *Innovative Infrastructure Solutions*, *3*(1), December 2018, p.61.

35. **Kim, H. H.**, Mazumder, M., Lee, S.-J., Lee, M. S., "Effect of Blending Time on Viscosity of Rubberized Binders with Wax Additives" *International Journal of Pavement Research and Technology,* 11(6), November 2018, 655-665.

36. **Kim, H. H.***, Mazumder, M., Lee, S.-J., "Recycling of aged asphalt binders with wax warm additives" *Road Materials and Pavement Design*, 19(5), July 2018, 1203-1215.

37. **Kim, H. H.**, Mazumder, M., Lee, S.-J., Lee, M. S., "Characterization of recycled CRM binder containing wax warm additive" *Journal of Traffic and Transportation Engineering*, June 2018.

38. Ali, W., **Kim, H. H.**, Mazumder, M., Lee, M. S., Lee, S.-J., "Multiple Stress Creep Recovery (MSCR) Characterization of Polymer Modified Asphalt Binder Containing Wax Additives" *International Journal of Pavement Research and Technology*, May 2018.

39. **Kim, H. H.**, Mazumder, M., Torres, A., Lee, M.-S., Lee, S.-J., "Characterization of CRM binders with wax additives using an atomic force microscopy (AFM) and an optical microscopy" *Advances in Civil Engineering Materials, ASTM*, 6(1), December 2017, 504-525.

40. **Kim, H. H.**, Mazumder, M., Lee, S.-J., "Micromorphology and rheology of warm binders depending on aging" *Journal of Materials in Civil Engineering, ASCE*, 29(11), September 2017, 04017226.

41. **Kim, H. H.**, Mazumder, M., Lee, M. S., Lee, S.-J., "Identification of the microstructural components of crumb rubber modified asphalt binder (CRMA) and the feasibility of using environmental scanning electron microscopy (ESEM) coupled with energy dispersive X-Ray spectroscopy (EDX)." *International Journal of Highway Engineering*, 18(6), December 2016, 41-50.

42. Mazumder, M., Sriraman, V., **Kim, H. H.**, Lee, S.-J., "Quantifying the environmental burdens of the hot mix asphalt (HMA) pavements and the production of warm mix

asphalt (WMA)." *International Journal of Pavement Research and Technology*, 9(3), June 2016, 190-201.

43. **Kim, H. H.**, Jeong, K. D., Lee, M. S., Lee, S.-J., "Correlation between Superpave binder properties and engineering properties of recycled aged CRM mixtures." *International Journal of Highway Engineering*, 18(2), April 2016, 1-9.

44. Mazumder, M. **Kim, H. H.**, Lee, S.-J., "Performance properties of polymer modified asphalt binders with wax additives." *International Journal of Pavement Research and Technology*, 9(2), March 2016, 128-139.

45. **Kim, H. H.***, Lee, S. J., "Evaluation of rubber influence on cracking resistance of CRM binders with wax additives,"stte *Journal of Civil Engineering*, 43(4), February 2016.

46. Mazumder, M., **Kim, H. H.**, Lee, S. J., "Perpetual pavement: future pavement network," *Journal of Advanced Construction Materials*, 20, December 2015, 35-49.

47. **Kim, H. H.**, Jeong, K. D., Lee, M. S., Lee, S.-J., "Effect of FT-paraffin wax contents on performance properties of CRM asphalt binders." *Journal of Materials in Civil Engineering, ASCE*, 27(11), November 2015, 04015011.

48. **Kim, H. H.**, Lee, S. J., "Effect of Crumb Rubber on viscosity of rubberized asphalt binders containing wax additives," *Construction and Building Materials*, 95, October 2015, 65-73.

49. **Kim, H. H.**, Humphries, E., Hu, J., Lee, S.-J., Lee, M. S., "Tight budgets and roadway maintenance: The need for further study of the conversion/reconversion scenario for low-volume roadways." *International Journal of Highway Engineering*, 17(3), June 2015, 158-159.

50. **Kim, H. H.**, Lee, M. S., Broughton, B., Lee, S.-J., "Microsurfacing successes and failures." *International Journal of Highway Engineering*, 17(2), April 2015, 91-98.

51. **Kim, H. H.**, Jeong, K. D., Lee, M. S., Lee, S.-J., "Performance properties of CRM binders with wax warm additives." *Construction and Building Materials*, 66(9), September 2014, 356-360.

52. Kim, Y. J., Kotwal, A., **Kim, H. H.**, Lee, S. J., "Stiffness prediction of recycled aged CRM binders using an artificial neural network," *International Journal of Pavement Research and Technology*, 7(1), January 2014, 9-17.

53. Humphries, E., Humphries, C., **Kim, H. H.**, Lee, S.-J., "Milling: a potential maintenance tool for flushed and rutting roadway surfaces in Texas." *Journal of Advanced Construction Materials*, 18, December 2013, 49-60.

54. Kim, K. W., Amirkhanian, S. N., **Kim, H. H.**, Lee, M. S. and Doh, Y. S., "A new static strength test for characterization of rutting of dense-graded asphalt mixtures," *Journal of Testing and Evaluation*, ASTM, 39(1), Jan., 2011, 59-66.

55. Lee, S.-J., **Kim, H. H.**, Kim, K. W., "Effect of supplementary cementing materials on the workability of blended cement pastes." *Journal of Advanced Construction Materials*, 15, December 2010, 63-69.

56. **Kim, H. H.**, Yoo, M. Y., Kim, J. C., Kim, K. W., "Binder stiffness effect on permanent deformation and tensile strength of asphalt concretes," *Journal of the Korean Society of*

Road Engineers, 12(2), June, 2010, 17-23.

57. **Kim, H. H.**, Choi, Y. R., Kim, K. W., Doh, Y. S., "Evaluation of rutting and deformation strength properties of polymer modified SMA mixtures," *Journal of the Korean Society of Road Engineers*, 11(4), December, 2009, 25-31.

58. Baek, S. H., **Kim, H. H.**, Doh, Y. S. and Kim, K. W., "Estimation of high-temperature properties of rubberized asphalt using chromatograph," *KSCE Journal of Civil Engineers*, 13(3), May 2009. 161-167.

59. Lee, H. I., **Kim, H. H.**, Park, N. W., Kim, K. W., "Aging, cracking and deformation characteristics of selected polymer-modified asphalt concretes," *Journal of the Korean Society of Road Engineers*, 10(2), June, 2008, 205-219.

60. Doh, Y. S., Park, T. W., **Kim, H. H.**, Kim, K. W., "Evaluation of stripping and rutting properties of CRM modified asphalt mixtures," *Journal of the Korean Society of Road Engineers*, 9(4), December, 2007, 149-158.

b. Non-refereed Articles:
None

3. Conference Proceedings

a. Refereed Conference Proceedings (* denotes corresponding author, ^ denotes graduate student):

1. Bhattarai, S.S.^, Bhandari, S., **Kim, H.***, Empowering Frontline Construction Crews with an AI-Driven Virtual Superintendent. *Proceedings of 61st Annual Associated Schools of Construction International Conference 2025*, Calgary, Alberta.
2. Bhattarai, S.S.^, Vigneswaran, S. Lee, S.-J., Mazumder, M., **Kim, H.***, Digital Technologies Readiness Among Undergraduate Construction Management Students: An Exploratory Study. *Proceedings of 61st Annual Associated Schools of Construction International Conference 2025*, Calgary, Alberta.
3. Bhattarai, S.S.^, Yun, J.^, Na, I.-H., Park, H. **Kim, H.***, "A Global Review of Carbon Sequestration in Asphalt Industry" *Geotechnical Frontiers 2025*, Louisville, Kentucky, March 2025.
4. Ahmadi, N.^, Bhattarai, S. S.^, and **Kim, H.** "Potential and Limitations of BIM in Designing Fire Sprinkler System: An Expert's Perspective." *Proceedings of 60th Annual Associated Schools* 5, Auburn, Alabama, 2024: 957-965.
5. Na, I. H., Ji, B. and **Kim, H. H.***, "Evaluation of Asphalt Binder and Mixture Characteristics for Railway Subgrade Application", *Spring Conference of the Korean Society for Railway*, Changwon, south Korea, May, 2023, KSR2023S115.
6. Mazumder, M., **Kim, H. H.**, Lee, S.-J., "Comparison of Field Performance of Crack Treatment Methods in Asphalt Pavement: Crack Filling versus Crack Sealing" In: 97th TRB Annual Meeting, *Transportation Research Board*. Washington, D.C., Jan. 2018.
7. **Kim, H. H.**, Lee, S.-J., "Can we recycle WMA with wax additives?" *Proceedings of Korean Society of Road Engineers*, South Korea, October 31, 2015, Compendium of papers CD-ROM.

8. **Kim, H. H.**, Lee, S.-J., Jeong, K. D., Hwang, S. D., "Effect of wax additive on high temperature properties of rubberized asphalt binders." *The 13th International Symposium for Advanced Technologies in Asphalt Pavements*, Chuncheon, South Korea, September 25 – 26, 2014, Compendium of papers CD-ROM.
9. Kim, H. H, Lee, S.-J., Jeong, K. D., Lee, M. S., "Evaluation of rubberized asphalt binders depending on FT-paraffin wax contents." *The 12th ISAP Conference on Asphalt Pavements*, Raleigh, North Carolina, June 1 – 5, 2014, Compendium of papers CD-ROM.
10. Kim, H. H, Lee, S.-J., Jeong, K. D., Hwang, S. D., "Effect of crumb rubber on asphalt binders containing LEADCAP additive." *The 12th ISAP Conference on Asphalt Pavements*, Raleigh, North Carolina, June 1 – 5, 2014, Compendium of papers CD-ROM.
11. **Kim, H. H.**, Park, J. Y., Choi, J. S. and Kim, K. W., "Analysis of high temperature property of modified foreign binders," *2010 Annual Spring conference of the Korean Society of Road Engineers*, Seoul, South Korea, March, 2010, 281-286
12. **Kim, H. H.**, Kim, N. H., Choi, J. S., Doh, Y. S. and Kim, K. W., "Correlation of four rutting test techniques for asphalt concretes," Proceedings, *11th International Symposium for Advanced Technologies in Asphalt Pavements*, Chuncheon, South Korea, June, 2010, 173-184
13. Kim, K. W., Choi, J. S., Yoo, M. Y. and **Kim, H. H.**, "An approach to characterization of high temperature deformation resistance of asphalt concretes using SD and FCWT," Proceedings, *11th ISAP Conference on Asphalt Pavements*, Nagoya, Japan, August, 2010.
14. Ryu, M. Y., Kim, J. C., **Kim, H. H.**, Doh, Y. S. and K. W. Kim, "Improvement of moisture damage of CRM-modified asphalt concretes in Korea," Proceedings, *Asphalt Rubber 2009*, Nanjing, China, November, 2009, 2-4.
15. **Kim, H. H.**, Park, T. W., Baek, S. H. and Kim, K. W. "Prediction of Permanent Deformation of Polymer-Modified Asphalt Concretes using Deformation Strength," Proceedings, *International Congress on Polymers in Concrete*, Chuncheon, South Korea, September, 2007.

b. Non-refereed:
None

4. Abstracts:
None

5. Reports:
None

6. Book Reviews:
None

7. Other Works in Print:
None

B. Works not in Print

1. Papers Presented at Professional Meetings:
None

2. Invited Talks, Lectures, and Presentations:

- Kim, H. “Trend of Asphalt Industry,” GS Caltex & GS MBIZ, Gapyeong, South Korea (June 2025)
- Kim, H., "Leadership for the 4th Industrial Revolution," Kangwon National University Chuncheon, South Korea. (June 2021).
- Kim, H., "Active thinking required as a leader in the 4th industrial age," Joseph International School, Yongin, South Korea. (June 29, 2021).
- Kim, H., "Intelligent construction material evaluation based on deep learning model, “Korea Petroleum Group, Seoul, South Korea. (June 9, 2021).
- Kim, H., Materials Science, Engineering, and Commercialization Forum and Technical Seminar, "Characterization of CRM binders with wax additives," Texas State University. (April 29, 2016)
- Hyunhwan Kim, “Characterization of CRM binders with wax additives” presented at the Materials Science, Engineering, and Commercialization Forum and Technical Seminar, Texas State University, April 29, 2016.

3. Consultancies:
None

4. Workshops:
None

5. Other Works not in Print:

a. Works “submitted” or “under review”
b. Works “ in progress”
c. Other works not in print

None

C. Grants and Contracts

1. Funded External Grants and Contracts:

1) **Texas Tech University,** 2024, PI (Lee, S.-J.), Percent Contribution 50%, **CoPI (Kim, H.),** Percent Contribution 50% "Develop a Comprehensive Map Detailing the Types of Aggregates Utilized in CRCP across Texas", Amount: $180,000, September 2024 - August 2026.

2) **Texas Tech University,** 2024, PI (Lee, S.-J.), Percent Contribution 50%, **CoPI** (**Kim, H.**), Percent Contribution 50% "Develop a Comprehensive Map Detailing the Types of Aggregates Utilized in CRCP across Texas", Amount: $70,000, February 2024 - August 2024.
3) **Sensor Products Inc.,** 2023, You, B.H., Lek, D., Payne, C., **Kim, H.,** "Pressure sensors", Amount: $5,137, October 2023.
4) **Korea Petroleum**, 2022, **PI (Kim, H.)**, "Research on company trends in the US asphalt industry", Amount $11,000**.** March 2022 - December 2022
5) **Korea Agency for Infrastructure Technology,** 2021, PI (Lee, S.-J.), **CoPIs (Kim, H. H.**, Mazumder, Mithil) "Development of Rubberized Asphalt Binder (PG 82-22) for Low-Noise Double-Layer Pavements, Advancement (KAIA)**"**, Amount $106,195. April 2021 - December 2023.
6) **ISU Inc.**, 2019, **PI (Kim, H. H.)**, "Development of Polymer Modified Asphalt (PMA) Binder for Sustainable Pavement", Amount: $56,628, November 2019 - October 2022.
7) **Korea Agency for Infrastructure Technology Advancement (KAIA),** 2019, PI (Lee, S.-J.), **CoPIs (Kim, H. H.**, Kim, Y. J.) "Development of IoT-based Asphalt Pavement Quality Control Technology", Amount: $88,574, May 2019 - December 2021.
8) **Korea Agency for Infrastructure Technology Advancement (KAIA)**, 2018, PI (Lee, S.-J.), **CoPI (Kim, H. H.)**, "Development of Long-Lasting Asphalt Overlay Methods by an Effective Pre-treatment of Existing Aged Concrete Pavement; Evaluation Method and Specification on Bonding Strength of Emulsified Asphalt", Amount: $230,096, April 2018 – December 2022.
9) **Korea Agency for Infrastructure Technology Advancement (KAIA)**, 2017, PI (Lee, S.-J.), **CoPI (Kim, H. H.)** "Development of Rubberized Asphalt Binder for Double-Layer Low-Noise Pavements", Amount: $140,186, January 2018 – December 2020.

2. Submitted, but not Funded, External Grants and Contracts:

1) **Mn DOT,** 2024 "Evaluating and Implementing Ground Penetrating Radar (GPR) for Continuous and Rapid Monitoring of Moisture Fluctuations in In-Service Roads" Amount: $ 120,845.70
2) **TxDOT,** 2024, "Synthesis: Commercial Air-Coupled Ground Penetrating Radar Systems to Be Used for Pavement Evaluations in Texas", Amount: $52,988.
3) **TxDOT,** 2024, "Synthesis: Prevention of Unauthorized Freeway Exits and Entrance", Amount: $64,310.
4) **Nevada Department of Transportation (NDOT)**, 2023, "Design of Surface Treatments with Reclaimed Asphalt Pavement Aggregates", Amount: $600,287.
5) **National Cooperative Highway Research Program (NCHRP)**, 2023, "Integrating Performance Management, Risk Management, and Process Improvement: A Guide", Amount: $ 373,047.
6) **TxDOT**, 2022, "Develop Rapid New Tests for Detecting Poor Quality Binders and RAP Materials", Amount: $200,778.
7) **TxDOT**, 2022, "Develop Recommendations for Evaluating Surface Types and Aggregate Properties to Minimize Wet Weather Crashes", Amount: $482,132.
8) **TxDOT**, 2021, "Quantify Maximum Accumulated Seal Coat Layers for Stability", Amount: $458,750.

9) **TxDOT**, 2021, “Investigating Prime versus Curing: Where, When and Why”, Amount: $509,250.

10) **KICT**, 2014, “Development of High-Performance Modified Asphalt Binders Using Asphaltene and Crumb Rubber Modifier”, Amount: $100,000.

11) **TxDOT**, 2013, “Optimize Use and Performance of Cape Seals”, Amount: $127,104.

12) **KICT**, 2013, “Development of Low-Carbon Low-Cost Asphalt Pavement: Evaluation of New Additive for Crumb Rubber Modified Asphalt Binders”, Amount: $19,355.

3. Funded Internal Grants and Contracts:

1) **Texas State University**, 2025, PI (Cho, E.), CoPI (**Kim, H.**) "REP: Roadway Assessment for Post-Inundation Durability in the 2025 Texas Hill Country Flood", Amount: $24,000, February 2024 - December 2024.
2) **Texas State University,** 2023, PI (**Kim, H.**) "CADS 2024 Collaborative Growth Award", Amount: $1,000, February 2024 - December 2024.
3) **Texas State University,** 2022, PI (Shi, Xijun), CoPIs (Torres, Anthony S, Moro Martinez, Carlos, Ozbakkaloglu, Togay, Yeon, Jung Heum, Kim, Yoo-Jae, Lee, Soon Jae, **Kim, Hyunhwan**), “Acquisition of a flexural fixture for Instron 5989 Test Instrument”, Amount $59,848. November 2022 – 2023).

4. Submitted, but not Funded, Internal Grants and Contracts:
None

D. Fellowships, Awards, Honors:

Texas State University, San Marcos, TX
Department of Engineering Technology
Research Award — Spring 2014, Spring 2013

Korean Society of Road Engineers, South Korea
Excellent Paper Award — Spring 2007 & Fall 2009, 2010

IV. SERVICE

A. Institutional

1. University:
    - Serving as a member of the graduate faculty (2017 - Present)
    - Serving as a member of Doctoral faculty in MSEC program (2020 – Present)
    - Attending annual graduation commencement ceremonies
    - Attending bobcat day

2. College:

3. Department/School:
    - Advisor, Texas Asphalt Pavement Association (TXAPA)/Asphalt Road-Eo student competition (2018 - Present)
        - 2nd and 3rd places in April 2024
        - 2nd place in April 2025
    - Participating in ACCE Accreditation
    - Participating in ABET Accreditation
    - Participating in the Construction and Concrete Job Fair
    - Member, Scholarship committee
    - Member, Admission committee for CM Master program
    - Grad Curriculum Committee

B. Professional:
- Scientific Committee Member - Polymer Concrete, Korea Concrete Institute (2025 ~ Present)
- Scientific Committee Member - Smart Concrete, Korea Concrete Institute (2021 ~ 2022)
- Reviewer, Construction and Building Materials (Elsevier) (2017 ~ present)
- Reviewer, Journal of Materials in Civil Engineering (ASCE) (2018 ~ present)
- Reviewer, MDPI-Applied Sciences (2017 ~ present)
- Reviewer, MDPI-Materials (2018 ~ present)
- Reviewer, MDPI-Sustainability (2018 ~ present)
- Reviewer, Journal of Advanced Construction Materials (2018 ~ present)
- Reviewer, Journal of Traffic and Transportation Engineering (English Edition) (2018-present)
- Reviewer, Road Materials and Pavement Design (2018-Present)
- Reviewer, International Journal of Pavement Research and Technology (2018-Present)
- Guest editor, Special issue: Innovative and Sustainable Infrastructure Materials for Construction Resilience and Improved Productivity, MDPI-Sustainability (2022)
- Topical advisory panel member, MDPI-Materials (2022 ~ Present)

C. Community:
- Korean language school principal in Austin Evergreen Church

D. Service Honors and Awards:
Texas Asphalt Pavement Association (TXAPA), Buda, TX

2024 Asphalt Road-Eo Competition (2nd and 3rd places)
2025 Asphalt Road-Eo Competition (2nd place)